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SOIL SURVEY

St. Mary Parish Louisiana

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with
LOUISIANA AGRICULTURAL EXPERIMENT STATION

HOW TO USE THE SOIL SURVEY REPORT

THIS SURVEY of St. Mary Parish will help you plan the kind of farming that will protect your soils and provide good yields. It describes the soils; shows their location on a map; and tells what they will do under different kinds of management.

Find your farm on the map

In using this survey, start with the soil map, which consists of the 56 sheets bound in the back of this report. These sheets, if laid together, make a large photographic map of the parish as it looks from an airplane. You can see woods, fields, roads, rivers, and many other landmarks on this map.

To find your farm on the large map, use the index to map sheets. This is a small map of the parish on which numbered rectangles have been drawn to show where each sheet of the large map is located.

When you have found the map sheet for your farm, you will notice that boundaries of the soils have been outlined and that there is a symbol for each kind of soil. All areas marked with the same symbol are the same kind of soil wherever they appear on the map.

Suppose you have found on your farm an area marked with the symbol Ba. You learn the name of the soil this symbol represents by looking at the map legend. The symbol Ba identifies Baldwin silt loam.

Learn about the soils on your farm

Baldwin silt loam and all the other soils mapped are described in the section, Descriptions of the Soils. Soil scientists walked over the fields and through the woodlands or traveled by boat through the swamps and coastal marshes. They dug holes and examined surface soils and subsoils; measured slopes with a hand level; noted differences in growth of crops, weeds, brush, or trees; and, in fact, recorded all the things about the soils that they believed might affect their suitability for farming or other uses.

After they had mapped and studied the soils, the scientists and other agricultural technicians judged what use and management each soil should have, and then they placed it in a management group and in a land capability class. A management group is a group of similar soils that need and respond to about the same kind of management. Management groups in a capability class have about the same degree of limitations, but these natural limitations are of different kinds.

Baldwin silt loam is in management group II–1. Turn to the section, Management Groups of Soils, and read what is said about the soils of group II–1. Here you will find out how much you can expect to harvest from Baldwin silt loam and the other soils of group II–1 under the management practices commonly used and under improved management.

Make a farm plan

For the soils on your farm, compare your yields and farm practices with those given in this report. Look at your fields for signs of poor drainage or erosion. This survey will aid you in planning new farming methods, but it is not a plan of management for your farm or any other farm in the parish.

If you find that you need help in farm planning, consult the local representative of the Soil Conservation Service or the parish agricultural agent. Members of the staff of your State agricultural experiment station and others familiar with farming in your parish will also be glad to help. The St. Mary Soil Conservation District, organized September 1945, will arrange technical help for you.

Fieldwork for this soil survey was completed in 1952. Unless otherwise specified, all statements in this publication refer to conditions in St. Mary Parish at that time.

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SOIL SURVEY OF ST. MARY PARISH, LOUISIANA

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United States Department of Agriculture in cooperation with the Louisiana Agricultural Experiment Station

General Nature of the Area

St. Mary Parish has productive soils. Rainfall is abundant, and the growing season is long. These factors make it one of the principal areas in the State for growing sugarcane.

In this parish the suitability of the soils for sugarcane and other cultivated crops is closely related to the elevation at which the soils occur and to the effectiveness of natural and artificial drainage. The best agricultural soils are on the natural ridges along the principal streams. These higher lying soils represent only a small part of the total acreage. Most of the soils in the parish occupy nearly level areas at lower elevations.

About 35 percent of the land consists of coastal marshes, and a like amount consists of areas that are frequently flooded by tides or by stream overflow. Most of the coastal marshes are suitable only for seasonal grazing and wildlife, but some of the areas could be reclaimed and used for growing cultivated crops.

Location and Extent

This parish is in the south-central part of Louisiana (fig. 1). It has a land area of approximately 387,200 acres. An additional 104 square miles is covered by inland waters. St. Mary Parish lies between the parallels 29°58′ and 29°28′ north latitude and the meridians 91°52′45″ and 91°4′ west longitude. It is bordered on the south and southwest by the Gulf of Mexico, on the north and northwest by Iberia Parish, on the northeast by St. Martin Parish, on the southeast by Terrebonne Parish, and on the east by Assumption Parish. It is somewhat rectangular in shape; its longest axis runs from northwest to southeast. Amelia is 37 miles southeast of Jeanerette, which is in Iberia Parish just across the parish line. From Fisher Island on the northern boundary to Point Chevreuil along the gulf is a distance of 29 miles.

Franklin, the parish seat, is in the north-central part of the parish. It is 26 miles northwest of Morgan City and 90 miles west of New Orleans.

Physiography and Relief

St. Mary Parish occupies part of three deltas of the Mississippi River, each of which has built up from alluvial materials derived from different sources and deposited during different ages. Much of the alluvium was left by the Red River, the Mississippi River, and by the combined Mississippi and Ohio Rivers during the time that these streams flowed through the channel now occupied by Bayou Teche (*5*).[2] This alluvium varies in texture. It is derived from different sources and is of different ages. It occurs in areas that differ distinctly in relief and can be identified as follows: (1) Nearly level and gently sloping natural levee ridges formed from sediments deposited during the overflow of streams, (2) low or depressed coastal-marsh areas built up from sediments deposited in the gulf, and (3) rolling to hilly areas over salt domes formed from older alluvial deposits. A typical cross section of the parish shows elevations of some of the soils and land types (fig. 2). On the following pages each of the three major areas of relief are described.

Natural levee ridges.—These ridges have been built up from alluvial sediments deposited along Bayous Teche,

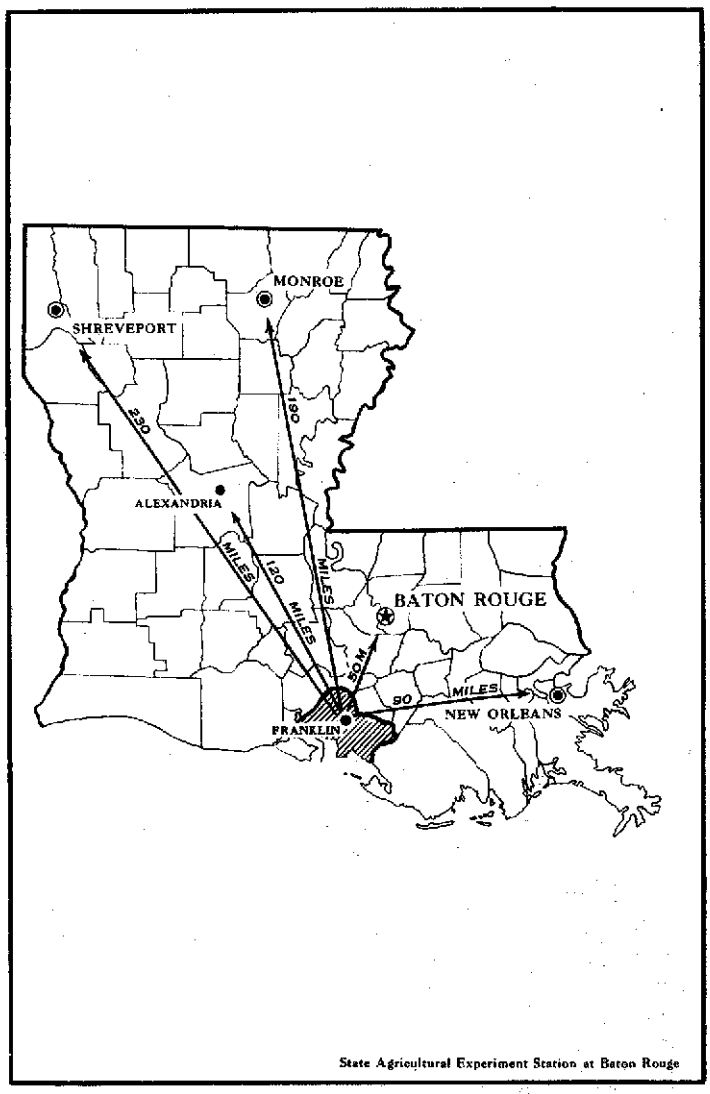

Figure 1.—Location of St. Mary Parish in Louisiana.

[1] Fieldwork for this survey was done when Soil Survey was part of the former Bureau of Plant Industry, Soils, and Agricultural Engineering. Soil Survey was transferred to the Soil Conservation Service on November 15, 1952.

[2] Italic numbers in parentheses refer to Literature Cited, p. 45.

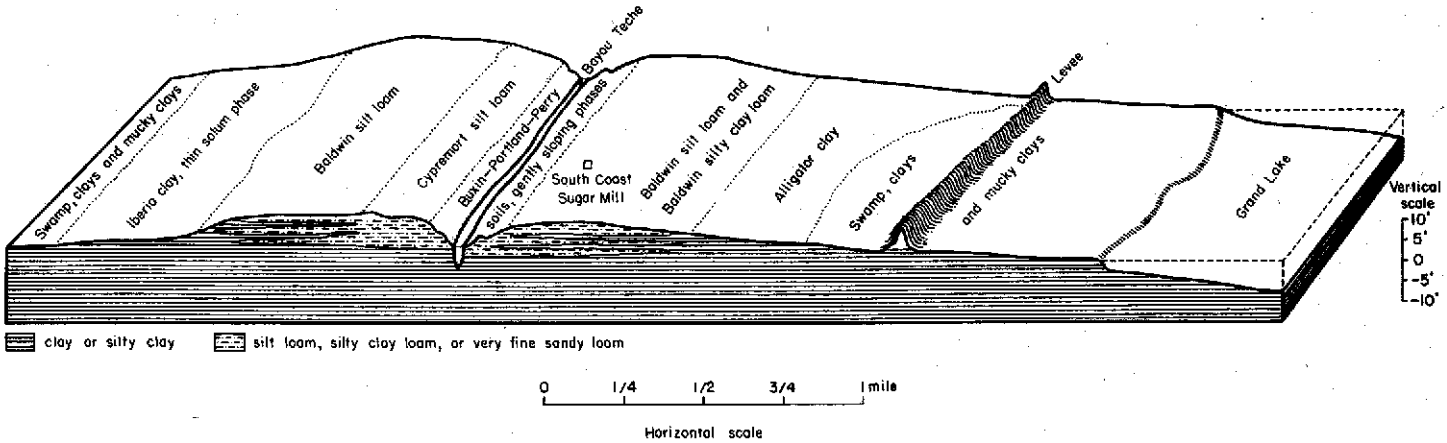

***Figure 2.*—Diagram showing elevations and soil materials of some of the soils and miscellaneous land types in St. Mary Parish.**

Cypremort, Sale, and other large and small streams. They range in elevation from near gulf level to 16 feet. In relief they are level to gently sloping. Some natural levee ridges are buried beneath the marshes.

When a stream overflows, the coarser alluvial materials—fine sands and silts—are deposited near the stream channel. The finer sediments—silty clays and clays—are carried in suspension and deposited farther from the channel in back-swamp areas. After repeated floods, ridges of medium-textured soil material are built up near the bank of the stream channel. Most of these natural levee ridges have a short gentle slope of 2 to 5 percent from the ridge crest to the stream channel and a longer slope of less than 1 percent from the ridge crest to the back swamp.

The widest, highest, and longest ridges are along Bayou Teche in the northwestern part of the parish. Here, the ridges are 6 miles wide and have a maximum elevation of 16 feet. These ridges extend from northwest to southeast and become progressively narrower and lower in elevation. At Franklin they are about 3.5 miles wide and as much as 12 feet in elevation, but at Amelia they are only 0.4 mile wide and have a maximum elevation of only 6 feet. Two natural levee ridges that differ in age and elevation and in kind of alluvium occur in most places along Bayou Teche. Near the Teche channel is a lower ridge of red and brown alluvium, deposited by the Red River when it followed this former Mississippi River channel. The higher natural levee ridge is made up of grayish-brown and gray alluvium, most of which was deposited by the Mississippi River.

The natural levee ridges of Bayous Cypremort and Sale extend southwest from the ridge of Bayou Teche to the gulf. The ridge of Bayou Cypremort, which is 18 miles long, extends from the Home Place plantation to Cypremort Point on Vermilion Bay. In elevation it ranges from 8 feet in the north to sea level in the south. The ridge of Bayou Sale is about 17 miles long. It extends from the post office of Bayou Sale, where the maximum elevation is 9 feet, to Bayou Sale Bay, where the elevation is about 2 feet.

A few smaller natural levee ridges extend at right angles from Bayou Teche. They represent old crevasse channels or distributaries that have been completely filled with sediments. These ridges range in elevation from 1 to 12 feet above the swamp. Some of them can be seen at the following locations: 1 mile south of Lake Fausse Pointe, sec. 13, T. 13 S., R. 8 E., and 2 miles southwest of Franklin, sec. 64, T. 14 S., R. 9 E. A remnant of a former channel of the Teche-Mississippi River system, an old semicircular channel scar made up of sediments from both the Mississippi and Red Rivers, is located west of Baldwin, 2½ miles northwest of Bayou Teche.

The low natural levee ridges make up only a small part of the land area of the parish, but they are occupied by the most important agricultural soils. Most of the soils have been cultivated for at least 50 years. The soils vary in texture, internal drainage, and elevation. Consequently, their suitability for agriculture varies. The best drained and most permeable soils occur at the crests of the natural levee ridges, and these are the most desirable for farming. The suitability of the imperfectly drained and poorly drained soils for row crops is determined mainly by how well the soils can be artificially drained.

Coastal-marsh areas.—The coastal marshes extend up to 10 miles inland from the gulf. They cover a broad plain of low relief that has an imperceptible slope toward the gulf. In general, elevations range from level in the southern part of the marshes to 1 or 2 feet in the northern and interior parts. The low natural levees along the tidal channels and large streams within the marshes rise to elevations of 1 foot or less above the marshes.

The coastal marshes are frequently flooded by tides and by overflow from the many lakes, bayous, and canals. Water is on or near the surface of the soil much of the year. Some places are flooded by tidal waters to a depth of as much as 18 inches. The occasional storm tides cover some areas with as much as 6 feet of water.

The vegetation of the coastal marshes consists of a thick cover of marshgrasses, sedges, and other water-tolerant plants. Because it is normally wet, the land is used mainly for seasonal grazing, trapping, and wildlife.

Bordering and within the coastal marshes are areas of swamps and bottom lands that are made up of sediments derived from the Mississippi River or from mixed sediments derived from the Mississippi and Red Rivers. These areas occur in the northern, eastern, and southeastern parts of the parish. They are level to undulating and range in elevation from sea level in the southeastern part to 5 feet on the delta of the Atchafalaya River in the northern part.

The peat and muck soils in the swamps are underlain

by alluvial deposits. Most of the areas of swamps and bottom lands are covered by a dense forest of cypress, tupelo-gum, swampbay, and swamp maple. The swamps and bottom lands are frequently flooded and are therefore used principally for seasonal grazing and for forests. In the past they have produced large quantities of timber.

Rolling to hilly areas over salt domes.—The forested soils on salt domes have the highest elevations and the steepest slopes (5 to 20 percent) and are the most severely eroded of any of the soils in the parish. In topography, they present a striking contrast to the surrounding low areas of marshlands. The elevation ranges from marsh level to more than 100 feet (*10*).

These salt domes are occupied by soils that have developed from alluvium of the Pleistocene epoch. This old alluvial material was washed mainly from areas of loess. The salt domes occur in 2 isolated areas within the coastal marshes. One, which covers about 1,600 acres, is Cote Blanche Island in the southwestern part of the parish. It is almost circular and has a maximum elevation of more than 100 feet. The other, Belle Isle in the southern part of the parish, is somewhat triangular and has an elevation of 80 feet. It occupies about 240 acres.

Drainage

The Atchafalaya River, which drains into the Gulf of Mexico, is the principal stream in the parish. This river enters the parish from the northwest. At present the Atchafalaya River is depositing alluvial sediments over a large delta in the Grand and Six Mile Lakes and along its entire course through Berwick Bay, the Lower Atchafalaya River, and into the gulf.

Other large streams in the parish are Bayous Teche, Shaffer, and Chene. Bayou Teche enters the parish from the northwest. It follows a winding course for about 42 miles and combines with an inactive segment of the Lower Atchafalaya River near Patterson. Within the parish, the winding Teche-Mississippi River system is approximately 66 miles long.

Most of the streams within the coastal marshes are near sea level; their direction of flow is generally determined by the direction and velocity of the winds and by the resulting tides. Like the Atchafalaya River, Bayous Shaffer and Chene flow toward the gulf. These streams often flood large areas. The Charenton and Hanson canals extend from Bayou Teche to the gulf, and the Wax Lake outlet canal extends from Six Mile Lake to the gulf. These canals have alleviated the danger of flooding by waters that were formerly impounded in Grand and Six Mile Lakes and Bayou Teche. The Intracoastal Waterway crosses the northern part of the coastal-marsh area. Many small canals have been constructed in this area for use in exploring for oil and gas and for use in producing it.

Water Supply

The parish is well supplied with water for livestock and for industrial use. There are many fresh-water lakes. A number of canals and streams cross the parish. In the grazing areas of the back swamps and marshes, the water for livestock is obtained from bayous and canals. The water needed for the sugarmills, canning factories, and petroleum refineries is obtained from fresh-water bayous and canals. Irrigation water for the ricefields is generally taken from Bayou Teche.

In Franklin, part of the water supply is obtained from wells that are 350 to 500 feet deep. This water comes from the water-bearing sands of the Pleistocene sediments. Fresh water is also piped from Grand Lake. Sediments from the delta of the Atchafalaya River are rapidly filling Grand Lake, however, and in the future it may become necessary for Franklin to rely only on the deep wells as a source of water. Morgan City and Berwick obtain water from the Lower Atchafalaya River. Patterson gets its supply from Bayou Teche.

Some water for domestic use is obtained from wells that are less than 40 feet deep. These shallow wells frequently become saline or brackish, especially during prolonged droughts. In the rural areas, a common practice is to collect water that runs off houses and buildings during rains. This water is stored in wooden or metal cisterns for use in the homes.

Climate

St. Mary Parish has a subtropical marine climate. The many lakes and bayous, the proximity of this area to the gulf, and the general southerly winds all tend to prevent sudden changes in temperature. Extremes in temperature seldom occur either in summer or winter. Data on climate for St. Mary Parish are given in table 1. This information was compiled from records kept at the United States Weather Bureau Station at Franklin.

The summers are long and warm. Temperatures range from 55° to 104° F., but the average summer temperature is 81.5° F. The fall months are generally mild. Winters are fairly mild with only a few cold days. Springlike weather commonly begins in February, and by April the weather is warm and mild.

The average annual precipitation is 66.84 inches. Rainfall is well distributed throughout the growing season. It is heaviest during the period from June through August, when there is an average of 21.77 inches. The lowest amount of precipitation—an average of 14.28 inches—occurs from December through February.

Sugarcane, corn, and other crops are seldom damaged through lack of moisture. Occasionally, however, the soils are either too wet or too dry during short periods in August and September, and the planting of sugarcane is delayed. Heavy rains that make fields muddy during November and December sometimes delay the harvesting of sugarcane. During September and October, heavy rainfall is likely to cause the sugarcane to mature late and to have a low content of sugar. Frequent showers occur late in spring and in summer. Occasionally, 3 inches or more of rain falls within a 24-hour period, generally during tropical storms.

The prevailing winds are from the south and southeast. Breezes from the gulf modify high temperatures in summer and early in fall. Occasionally, storms, with high winds and heavy rains, cause tides to flood large areas of the coastal marshes to a depth of several feet. Strong northerly winds sometimes cause the weather to be cold for a few days during winter.

The humidity ranges from moderate to high throughout the year. It is highest from May through September and lowest during winter.

TABLE 1.—*Temperature and precipitation at Franklin Station, St. Mary Parish, La.*

[Elevation, 10 feet]

Month	Temperature [1]			Precipitation [2]			
	Average	Absolute maximum	Absolute minimum	Average	Driest year (1904)	Wettest year (1946)	Average snowfall
	° *F.*	° *F.*	° *F.*	*Inches*	*Inches*	*Inches*	*Inches*
December	56. 7	84	16	5. 54	2. 76	6. 79	0. 1
January	55. 6	87	13	4. 54	2. 75	7. 16	[3]
February	58. 4	89	8	4. 20	1. 20	2. 84	. 2
Winter	56. 9	89	8	14. 28	6. 71	16. 79	. 3
March	62. 6	94	26	5. 66	3. 96	10. 54	[3]
April	68. 9	95	33	4. 73	1. 85	6. 41	0
May	74. 9	99	43	5. 23	2. 50	16. 18	0
Spring	68. 8	99	26	15. 62	8. 31	33. 13	[3]
June	80. 5	104	55	6. 88	3. 03	10. 23	0
July	82. 0	100	60	7. 68	10. 06	14. 83	0
August	82. 1	102	60	7. 21	6. 01	4. 78	0
Summer	81. 5	104	55	21. 77	19. 10	29. 84	0
September	79. 1	100	47	7. 10	2. 66	8. 40	0
October	70. 9	98	31	3. 33	. 27	5. 30	0
November	61. 4	96	23	4. 74	. 87	5. 30	0
Fall	70. 5	100	23	15. 17	3. 80	19. 00	0
Year	69. 4	104	8	66. 84	37. 92	98. 76	. 3

[1] Average temperature based on a 62-year record, through 1954; highest and lowest temperatures on a 58-year record, through 1952.
[2] Average precipitation based on a 62-year record, through 1954; wettest and driest years based on a 59-year record, in the period 1893–1954; snowfall, based on a 53-year record, through 1952.
[3] Trace.

St. Mary Parish has an average growing season of 278 days. Temperatures below 32° F. are recorded on only a few days of the year. The average date of the first killing frost in fall is November 26, and that of the last killing frost in spring is February 21. Killing frosts, however, have occurred as early as October 31 and as late as April 3.

Temperatures below freezing damage the sugarcane. When planted, the sugarcane must be covered with 4 to 6 inches of soil to prevent frost damage. A frost in November or early December, when most of the crop is still unharvested, may be costly. The crop may deteriorate if it is not harvested soon after freezing, especially if the weather turns warm. If a killing frost occurs early in the harvesting season, however, facilities are not adequate to harvest a large crop in a short time.

Vegetation

Some of the plants in St. Mary Parish will grow only on dry soils and some only on wet soils. Others will grow only in fresh water, and still others only in brackish water. The type of vegetation varies throughout the parish.

The driest soils, which are on high terraces over salt domes, have a cover of live oak, red oak, white oak, hickory, sweetgum, and hackberry trees. The uncultivated soils on the natural levee ridges of the low Mississippi River terraces have a dense stand of small live oak, water oak, red oak, sweetgum, and hackberry trees. Volunteer grasses on these soils are bluestem, vasyegrass, dallisgrass, bermudagrass, johnsongrass, and crabgrass.

The soils of the bottom lands support a dense stand of cypress, tupelo-gum, swampbay, swamp maple, willow, sycamore, and cottonwood. On the organic soils of the swamps, the plant cover ranges from dense forest to scattered trees, mainly tupelo-gum and cypress with some swampbay and swamp maple.

In the fresh water marshes and nearly fresh water marshes, the luxuriant plant cover generally consists of pure stands of common reed (*Phragmites comminus*), paille finne (*Panicum hemitomon*), cattail (*Typha latifolia*), bulrush (*Scripus validus*), and cutgrass (*Zizaniopsis miliacea*). These plants also are dominant in some areas of the fresh water and nearly fresh water marshes in which brackish-water plants also grow (*1, 3, 4*).

The dominant vegetation of the brackish marshes ranges from nearly pure stands of couchgrass (*Spartina patens*) or three-square (*Scirpus olneyi*) to mixed stands of plants containing both the plants common to brackish water and those common to nearly fresh water. Where the species are mixed, those common to brackish water are dominant. In such mixed areas are big cordgrass (*Spartina cynosuriodes*), leafy three-square (*Scirpus robustus*), switchgrass (*Panicum virgatum*), delta potato (*Sagittaria lancifolia*), couchgrass, three-square, and cutgrass.

Near the coast, a few small areas of saline marsh soils support saltgrass (*Distichlis spicata*), sea-oxeye (*Borrichia frutescens*), and blackrush (*Juncus roemerianus*), which have a salt tolerance of at least 2 percent (*8*).

Settlement, Organization, and Population

Up to 1803, when the United States purchased the Louisiana Territory from France, the ownership of the area that is now St. Mary Parish shifted back and forth between Spain and France. The area was thinly populated, and settlement did not progress rapidly. Travel into the area that is now St. Mary Parish was restricted by the almost inaccessible Des Allemands and Chacahoula Swamps that separated the area from the New Orleans settlement to the east.

The earliest inhabitants were largely Chitimacha (Chettimanchi) Indians who lived along the shores of the present Grand Lake. In about 1765, French Acadian farmers came into the area. Some of them settled along Bayou Teche. Other settlers came from France and Spain. After the Revolutionary War, settlers came from the eastern seaboard and England and established villages along Bayou Teche and the Atchafalaya River (*9*).

St. Mary Parish was organized in 1811. Franklin, which is on Bayou Teche in the north-central part of the parish, became the parish seat. This town was founded in 1800. It is now the principal trading center for a large part of the parish. In 1950, it had a population of 6,144.

Morgan City, formerly called Brashear City, is in the eastern part of the parish. It was founded in 1850 and at that time was the western terminus of the New Orleans-Opelousas and Great Western Railroad. Because of its location on Berwick Bay, Morgan City is an important port of the Intracoastal Waterway and is a principal trading center. It is also the home port of a large part

of the shrimp fleet. This town, the largest in the parish, had a population of 9,759 in 1950.

Berwick, which is separated from Morgan City by Berwick Bay, is the oldest settlement in the parish. It is an important port and trading center. Its population was 2,619 in 1950.

Patterson, near Bayou Teche in the eastern part of the parish, is about 7 miles west of Berwick. This settlement was begun in 1891 as a sawmill community. Later it was the site of a large sawmill used to process cypress trees. After most of the trees were cut, employment declined and the population of the city decreased. Since 1940, Patterson has been an important shrimp-packing center. Its population in 1950 was 1,938.

The town of Baldwin is in the northwestern part of the parish. It is about 8 miles southeast of Jeanerette, which is in Iberia Parish. Baldwin, like Patterson, was once a thriving sawmill community, but its population declined after the sawmill closed in 1920. It is now a trading center for the rural areas in the western part of the parish. Its population in 1950 was 1,138.

A government reservation of 160 acres is located near Charenton. Approximately 180 Chettimanchi Indians live on or near this reservation.

The total population of St. Mary Parish in 1950 was 35,848, about 60 percent of which was rural. This represented an increase of 14 percent over the 1940 population. Much of this gain resulted from increased activity in the oilfields and gasfields.

Most of the farms and plantations are near streams. In general, there is a continuous row of farms and plantations along the highways that run parallel to the principal streams. On many of the large plantations, there is a small settlement of 20 to 30 dwellings that house the owner or manager, the tenants, and the laborers. Other buildings are barns, implement sheds, and machine shops. On many of the plantations, there is a general store at the plantation headquarters. Settlements of considerable size have been established near each of the sugarmills in the parish.

Industries

The processing of sugarcane into raw and refined sugar is the most important agricultural industry in the parish. Nine sugarmills, in which raw sugar is produced, are scattered throughout the parish. In one of these mills, the raw sugar is made into refined sugar. According to U. S. Census of Agriculture, a total of 549,018 tons of sugarcane was harvested for sugar or for sale to mills in 1954. This accounted for about 11 percent of the total sugar production of the State's 20 parishes that produce sugar. About 1,800 workers are employed in the sugarmills.

There are several oilfields and gasfields in the parish. The production of oil and gas and the exploration for them provide employment for many people, some of whom represent contracting companies from other States.

Commercial fishing and the processing of seafood have expanded rapidly in recent years. Plants that process seafood are located at Franklin, Morgan City, Berwick, and Patterson. Shrimp, oysters, and fish are shipped to eastern and northern markets or are sold locally.

Hunting and trapping are important in the marsh and swamp areas.

Shipbuilding companies construct boats and oil-drilling equipment at Morgan City, Berwick, and along Bayou Teche, west of Berwick. Many shrimp trawlers are built each year. Fishnets, barrels, and wooden boxes are also manufactured in Morgan City and Berwick. Boats, barges, motors, and farm machinery are built and repaired in Franklin, Berwick, and Morgan City. The construction and maintenance of pipelines for oil, gas, and water constitute a large enterprise. Other industries in the parish include an ironworks located at Franklin, two carbon black plants, and several lumbermills.

Transportation

The early settlers of St. Mary Parish traveled mostly by boat or on horseback. There were no roads or bridges in the area, so the early plantations were established along navigable bayous. Land travel followed the towpaths along the bayous. These towpaths, called cordelle roads by the French, were made by workers who pulled sailboats with ropes when there was not enough breeze to move the boats. The cordelle roads were the forerunners of the present highways in the parish.

In 1881 a railroad bridge was completed across the Lower Atchafalaya River at Morgan City, and the first train of what was then the New Orleans-Opelousas and Great Western Railroad passed through the parish, linking New Orleans with Houston, Tex. (*6*). The main line of the Southern Pacific Railway now passes through the parish and serves all the larger towns. A spur line of the Southern Pacific extends from Baldwin, along the Bayou Cypremort ridge, to the salt mines on Weeks Island in Iberia Parish and to the carbon black plant on the Ivanhoe plantation. Another spur line extends down Bayou Sale ridge from the post office at Bayou Sale to the carbon black plant on the North Bend plantation. A branch line of the Missouri Pacific Railroad transports freight from Franklin northwest to Alexandria in Rapides Parish.

United States Highway No. 90 extends across the parish from northwest to southeast and connects most of the larger towns. Approximately 60 miles of concrete and asphalt highways and about 180 miles of shell and gravel roads serve all parts of the parish. Buslines and trucklines operate on daily schedules over most of the principal highways.

The bayous, rivers, lakes, canals, and small streams that form an intricate network are important arteries of water travel. The parish has nearly 600 miles of waterways, many of which are navigable. The Intracoastal Waterway extends across the northern part of the coastal marshes. It is the main artery of the inland water route between New Orleans and Orange, Tex. A maintained channel extends through the shallow Six Mile and Grand Lakes into the Atchafalaya River basin and then into the main channel of the Atchafalaya River.

Important waterways used for the transportation of freight are Bayous Teche, Boeuf, Chene, Shaffer, the Lower Atchafalaya River, Charenton Canal, Franklin Canal, and the outlet channel of Wax Lake. Freight is transported over a waterway extending from Morgan City to the Mississippi River at Plaquemine in Iberville Parish. The products carried by rail, truck, and boat are mainly sugarcane, sugar, molasses, sirup, seashells, shrimp, oysters, crude petroleum and petroleum products,

chemicals, sulfur, drilling mud, gravel, sand, pipe and oil-well supplies, and fertilizers.

The Harry P. Williams Memorial Airport, which is west of Patterson, is the only airport in the parish.

Agriculture

The agriculture of St. Mary Parish is based primarily on the growing of sugarcane, but corn, rice, and soybeans are also grown. On the following pages important features of the agriculture of the parish are described. The statistics used are taken from reports published by the United States Bureau of the Census.

Agricultural History of the Parish

In the area that is now St. Mary Parish, Indians grew the first food crops. They planted these crops—maize, beans, squash, potatoes, and peas—along what is now Bayou Teche and Grand Lake. When the early settlers arrived, they also planted their crops on small farms that fronted on Bayou Teche or on other waterways.

The settlers grew cotton, rice, indigo, corn, and sugarcane on small farms. Most of these farms were Spanish land grants; each holding included frontage on a navigable bayou and extended back from the stream for a distance of 40 arpents. At first, indigo was the principal cash crop, but cotton began to increase in importance. After the process of granulating sugar was perfected in 1794, sugarcane also became more important. At the time of the Louisiana Purchase in 1803, cotton had become the leading crop in the parish. Planters began to enlarge their holdings by buying cheap back lands, which, if more than 40 arpents from the bayous, cost only $1.25 an acre. The number of small farms declined.

Sugarcane did not become the principal crop in the parish until the War of 1812, when the British blockade kept out sugar from foreign sources. Then cotton prices began to decline, and many former cotton farmers turned to growing sugarcane. By 1860, the parish was the principal sugar-producing area in the State. During the 1860–61 season, 170 sugarhouses produced 27,229 hogsheads of sugar. Sugar production dropped sharply during the Civil War so that during the 1864–65 season only 2 sugarhouses were operating.

It was not until 1934 that sugarcane again became the principal crop in the parish. Yields increased from 60,500 tons in 1905 to 549,018 tons in 1954. Rice has become more important in recent years. In 1954, 94,692 barrels of rice were harvested.

The need for adequate drainage in fields used to grow sugarcane and corn was recognized by the early planters. As early as 1847, the drainage wheel was used in the parish. This wheel was powered by steam and threw water from the main drainage ditches into the back swamps. A typical drainage wheel was 25 feet in diameter and 5 feet wide; the buckets were 5 feet wide and 6 feet deep. Much of the fieldwork on farms consisted of constructing and maintaining the drainage ditches and protective levees.

TABLE 2.—*Acreage of the principal crops grown*

Crop	1929	1939	1949	1954
	Acres	*Acres*	*Acres*	*Acres*
Sugarcane	20,686	22,156	44,787	29,943
Corn	13,041	14,264	7,187	9,686
Soybeans	8,021	11,653	11,441	10,366
Rice	3,773	2,828	3,803	6,883
Cowpeas	1,227	641	140	59
Hay	4,613	4,589	2,156	2,464
Annual legumes	3,903	4,236	1,924	1,094
Lespedeza	(1)	131	15	83
Alfalfa	113	(1)	152	446
Timothy and clover	26	(1)	132	(1)
Other tame hay	123	88	[2] 358	[2] 841
Sweetpotatoes	703	266	[3] 107	[4] 48
Irish potatoes	567	179	[3] 44	[4] 24

[1] Not reported.
[2] Includes wild hay.
[3] Does not include acreage for farms with less than 15 bushels harvested.
[4] Does not include acreage for farms with less than 20 bushels harvested.

Land Use

About 162,162 acres, or more than 41 percent of the total acreage, was in farms in 1954. This compares with 104,902 acres, or about 27 percent, in 1945.

The number of farms decreased from 520 in 1930 to 417 in 1954. The average size of farms increased from 232 acres to 389 acres. In 1954, more than 53 percent of the farmland was in crops, 10 percent was in pasture, and about 32 percent was woodland. The rest was used for miscellaneous purposes.

Types and Sizes of Farms

In 1954, 30.4 percent of the farms in St. Mary Parish were miscellaneous and unclassified. The rest were classified by major source of income as follows:

	Percent
Field-crop farms other than vegetable and fruit and nut	65.4
Cash grain	4.2
Other field crops	61.2
Livestock farms other than dairy and poultry	4.0
General farms	.2

There were many large farms in the parish in 1954. Of these farms, 33 were 1,000 or more acres in size, 28 were between 500 and 999 acres, 66 were between 220 and 499 acres, and 84 were between 100 and 219 acres. There were 173 farms of less than 49 acres.

Crops

Sugarcane is the most important cultivated crop in the parish, but corn, rice, hay, and green-manure crops are also grown. There has been some increase in the acreage planted to rice. In table 2 the acreage of the principal crops is listed for the years 1929, 1939, 1949, and 1954.

From 1929 to 1949, the total acreage used for cultivated crops increased, partly as the result of improvements made in farm machinery. During this period, most of the soils that did not need to be completely reclaimed or drained by pumps were cultivated. In a few areas, levees were built and floodgates and pumps were installed to help regulate the moisture so that the soil would be suitable for row crops.

As a result of the Federal Acreage Allotment Program, some of the low-lying, poorly drained soils, formerly used to grow sugarcane but poorly suited to that purpose, were transferred to other uses. Some of these soils are now used for corn, and some are idle or pastured.

Sugarcane

The agricultural economy of the parish is based on sugarcane. Normally, three crops can be obtained from a single planting, but yields of the third crop, or second-year stubble cane, are frequently poor. The low yields may result from poor drainage and poor aeration caused by the row middles being compacted by heavy machinery; from diseases such as root rot, red rot, mosaic, and ratoon stunting; from winterkilling; or from the loss of plant nutrients. Sugarcane borers also lower the yields. Good to excellent yields have been obtained from third- and fourth-year stubble where cane was planted following a well-sodded improved pasture.

Good soil drainage and ample moisture are needed for sugarcane to make profitable yields. Poorly drained soils remain saturated for a considerable time after heavy rains and are unfavorable for the growth of roots. In addition, the plants are likely to deteriorate or to be damaged by root diseases.

Most of the cultivated soils can be adequately drained for sugarcane if the rows are run with the slope and are thrown up as ridges 16 to 20 inches high. The rows are usually 6 feet apart. Each row middle functions as a drainage ditch. The cane is planted in the rows, several inches above the row middles. In addition, deep ditches that are properly spaced and the correct size are needed in many areas to drain the soils adequately for sugarcane.

Widely spaced lateral ditches, which provide for larger fields or cuts, are used to help drain the better drained soils. Closely spaced lateral ditches, resulting in narrower fields or cuts, are needed for more intensive artificial drainage of the finer textured, level or nearly level soils. These lateral ditches are run with the slope and parallel to the cane rows. Quarter drains are placed at right angles to the rows to remove drainage water from the ends of cuts and from low spots in the field.

Cut crowning is a good practice to improve drainage for sugarcane, corn, soybeans, and pastures, especially on fields or cuts where the interior is lower than the edges. In cut crowning the soil is either plowed or graded to the center of the area between the lateral ditches. This makes the cut highest in the center, from where it slopes to the lateral ditches along its boundaries with a fall of 0.3 to 0.5 foot in 100 feet.

In preparing the soil for a new crop of sugarcane, the planter lists the fields into rows. Some fields are plowed flat before the rows are made. Yields are generally low if the rows are made by listing out old rows and building up the new ones over the old compacted middles.

Between August 1 and November 1, the sugarcane is planted on the tops of the rows and covered with about 4 inches of soil. Normally, 20 to 30 percent of the sugarcane germinates, and from 2 to 4 tons of sugarcane per acre must be planted to insure a good stand. A winter-legume crop of Melilotus indica, vetch, or Austrian peas is sometimes planted in the row middles.

The new growth of stubble cane comes from the lowest nodes that are left after the previous crop is cut. The row middles, which have become compacted by heavy machinery during the previous year, are commonly plowed out early in spring. Deep plowing brings the compacted soil and old cane trash to the surface. This improves drainage and aeration and makes the trash decompose faster.

The tops of the sugarcane plants and a few inches of soil are shaved off the top of the row when the soil begins to warm in the spring. Shaving kills the weeds at the top of the row. Removing part of the soil permits the cane to start growing earlier. It is a good practice to shave off the cane, especially if there is much new growth that is badly infested with sugarcane borers.

The cane is fertilized when it has been determined that there is a proper stand. The fertilizer is applied along the row, a foot or more from its crest, and the soil is thrown to the cane in one operation. A disk cultivator with a distributor attachment is commonly used for this job. The crop is cultivated at least three times to loosen the soil and to kill the weeds.

Harvesting begins about the second week in October, but the exact date depends upon the weather and the results of sucrose tests. The mechanical cane harvester cuts the cane at the bottom, removes the tops, and windrows the cane across two stubble rows. The few leaves that are left on the cane soon become dry and are burned off. The cane is placed in piles by a tractor-driven rake. It is then picked up mechanically, placed in a tractor-drawn wagon, and delivered to the sugarmill.

Rice

The total acreage in rice is small at present; however, many of the soils are well suited to rice. Rice is commonly grown on the fine-textured soils of the back lands. Normally, it is grown in a 2- or 3-year rotation consisting of either 1 year of rice and 1 year idle, or of 2 years of rice and 1 year idle.

Levees, 8 to 12 inches high are built up (on the contour) on the ricefield at sites of equal elevation. The levees are spaced so that the entire ricefield can be flooded to a depth of 4 to 6 inches. Irrigation ditches are used to flood the field and then to remove the water. The seedbed is prepared by flat breaking, disking, and rolling.

Rice is planted in spring or early in summer. A grain seeder is commonly used for planting, and fertilizer is applied at planting time. When the rice reaches a height of 4 to 6 inches, the field is flooded and kept flooded until nearly harvesttime, when it is drained. The rice is harvested with a combine.

Corn

In this parish corn is commonly rotated with sugarcane. Much of the corn is used on the farm. The small amount that is surplus is sold locally.

The corn is planted early in spring. It generally follows stubble cane in the rotation. The cane rows are disked down, and the field is normally plowed flat. Then the rows are again built up, and the corn is planted on top of the rows. The corn is cultivated two or more times during the growing season.

Soybeans

Soybeans are the most important summer-legume crop in the parish, but some cowpeas and velvetbeans are grown. At least 2 weeks before the sugarcane is planted, soybeans or another legume crop are plowed under to

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provide green manure. In most fields soybeans are planted with the corn, but in some they are grown alone. If soybeans are grown alone, a flat seedbed is prepared and the seeds are either drilled or broadcast.

Hay

Most of the hay is used on the farm. Much of it is cut from small, unimproved permanent pastures or from the headlands and roads between the cuts or fields of sugarcane. Johnsongrass, dallisgrass, vaseygrass, bermudagrass, and crabgrass are cut for hay. In a few small fields, whiteclover, common lespedeza, and alfalfa are grown for hay. If there is a shortage of other forage plants, soybeans are cut for hay.

Other crops

Garden vegetables, Irish potatoes, and sweetpotatoes are grown on most plantations and farms for home use. The principal tree fruits are figs, oranges, pears, and peaches. There are a number of pecan trees in the parish.

Rotations

The principal crops of the parish are grown in rotations. Sugarcane is commonly grown in a 4-year rotation consisting of 3 years of sugarcane followed by 1 year of corn, 1 year of soybeans, or 1 year of corn and soybeans grown together. Under this rotation approximately three-fourths of the cropland would ordinarily be in sugarcane each year and one-fourth in corn, soybeans, or fallow. As a result of the Federal Acreage Allotment Program, however, the acreage in sugarcane has been reduced so that now less than three-fourths of the total cropland is used for that crop.

After 3 years in sugarcane, many fields become badly infested with johnsongrass, the principal noxious weed in cultivated fields in this area. Johnsongrass can be controlled by fallowing the soils, that is, plowing the infested fields 6 to 8 times during the summer. The weed is controlled somewhat better by this method than by growing corn under clean cultivation.

Rice is commonly grown in a 2-year rotation consisting of 1 year of rice and 1 year idle. It is also grown in a 3-year rotation consisting of 2 years of rice and 1 year idle or of volunteer pasture.

Fertilizers

A legume crop such as soybeans or cowpeas is commonly plowed under as green manure before sugarcane is planted. Most of the crops cultivated in the parish receive annual applications of commercial fertilizer. During the 1952–53 season, 1,945 tons of fertilizer was applied to crops. Of this, 70 percent was nitrogen fertilizer, 22 percent was complete fertilizer, and 8 percent was phosphate and potash fertilizer.[3]

For sugarcane, the common practice is to apply 40 pounds of nitrogen per acre to plant cane and 60 pounds of nitrogen per acre to stubble cane. A few planters apply phosphate and potash to sugarcane.

Corn is fertilized with 50 pounds of nitrogen per acre and 100 to 200 pounds of a complete fertilizer at planting time. A sidedressing of 50 pounds of nitrogen is applied later.

Often fertilizer is not used on rice, especially if a rank growth of volunteer vegetation has been turned under. If the rice is fertilized, 200 to 400 pounds of a complete fertilizer per acre is commonly applied.

Soybeans are frequently planted without fertilizer. Some farmers increase their yields by applying 100 to 200 pounds of a complete fertilizer per acre. Soybeans produce higher yields on the sandy front lands if they are fertilized with 100 pounds of 20 percent superphosphate.

Some superphosphate, basic slag, rock phosphate, and complete fertilizer have been applied to improved pastures. Most of the highly productive pastures are fertilized with 200 to 400 pounds of 20 percent superphosphate per acre, or the equivalent, and 50 pounds of potash, as muriate of potash. In addition, about 1 ton of lime per acre is applied to pastures on acid soils.

Both dry and liquid nitrogen fertilizers are used. Of the total amount of nitrogen fertilizer applied to crops in 1950–51, 28 percent was applied as anhydrous ammonia and 65 percent as ammonium nitrate. Recently, however, the amount of liquid nitrogen used has increased steadily, while the amount of dry nitrogen used has decreased. During the 1954–55 season, 64 percent of the nitrogen was applied as anhydrous ammonia and 25.7 percent as ammonium nitrate.

Pastures

The acreage in pasture has increased in this parish during recent years. In 1954, 16,705 acres, or a little more than 10 percent of the total land in farms, was in pasture. Of this, 4,320 acres was in improved pasture. The improved pastures are seeded to whiteclover, dallisgrass, lespedeza, and bermudagrass. Some are also seeded to oats or ryegrass for winter grazing.

Besides the pastures on livestock farms, most plantations have pastures of from 3 to 15 acres located near the plantation headquarters. These pastures provide forage for workhorses, mules, and milk cows.

Unimproved grass pastures of dallisgrass, vaseygrass, bermudagrass, panicgrass, and bluestem provide good seasonal grazing. Some farmers fence low-lying, poorly drained fields near the swamps and use them for pasture. Fairly large areas within the swamps provide fair to poor seasonal grazing and browsing. In small, moderately well drained, easily accessible areas of the coastal marshes, paille fine, feathergrass, and big cordgrass provide excellent grazing. Ricefields are grazed after the crop is harvested.

Livestock and Livestock Products

Large-scale livestock farming does not fit well into the agricultural economy of St. Mary Parish. Nevertheless, part of the acreage withdrawn from use for sugarcane is now in livestock farms. The number of livestock farms increased from 6 in 1950 to 20 in 1954. The number of cattle and other livestock on farms and plantations in 1930, 1940, 1950, and 1954 is shown in table 3.

Each plantation keeps a few milk cows. In 1954, there were 289 milk cows in the parish. Most of the milk is used locally, but 21,738 gallons of whole milk was sold in 1954. Hogs are raised mostly for home use.

[3] LOUISIANA DEPARTMENT OF AGRICULTURE AND IMMIGRATION. REPORT OF FERTILIZER SOLD IN LOUISIANA BY GRADES. [Mimeographed.] 1952–53.

TABLE 3.—*Number of livestock on farms and plantations*

Livestock	1930	1940	1950	1954
Cattle and calves	2, 809	[1] 2, 639	3, 591	5, 605
Horses and mules	2, 879	[1] 1, 686	1, 265	697
Hogs and pigs	4, 895	[2] 1, 309	1, 820	1, 178
Sheep and lambs	163	[3] 48	73	24
Chickens	[1] 30, 640	[2] 19, 264	[2] 24, 938	[2] 20, 553
Turkeys raised	242	67	545	84
Ducks raised	294	123	1, 092	312

[1] Over 3 months old.
[2] Over 4 months old.
[3] Over 6 months old.

Some plantations still have a number of workmules and a few saddle horses; although most of the farm power is now supplied by tractors. In 1954, there were 697 horses and mules in the parish, as compared with 1,265 in 1950.

Poultry and poultry products account for a small part of the annual farm income. In 1954, 4,744 chickens and 47,941 dozen eggs were sold.

Farm Tenure

In 1954, approximately 41 percent of the farms were operated by owners, 20 percent by part owners, 4 percent by managers, and 35 percent by tenants. The percentage of tenancy was more than 3 percent lower in 1954 than in 1945. About 21 percent of the tenants pay cash rent; the others are share-cash or share-crop tenants.

Farm Equipment and Labor

Farming is highly mechanized on the larger sugar plantations. In 1954 there were 866 tractors on 298 farms, 489 motortrucks on 239 farms, 34 grain combines on 28 farms, and 18 pick-up hay balers on 18 farms. Other equipment included cane-harvesting machines, cane loaders, ditching machines, grading machines, hoists, wagons, cultivators, disks, and other tractor attachments. Electricity is available in most rural areas.

The purchase and repair of farm equipment are major items of farm expense. As a result, many farmers find it profitable to hire some equipment instead of buying it.

Much of the work on a sugarcane plantation requires hand labor to maintain field drainage facilities and to plant, hoe, and harvest the sugarcane. Most of the fieldhands and tractor operators are paid in cash.

How a Soil Survey is Made

The scientist who makes a soil survey examines soils in the field, classifies the soils in accordance with facts that he observes, and maps their boundaries on an aerial photograph or other map.

FIELD STUDY.—On the agricultural soils of this parish, the soil surveyor has dug or bored many holes to see what the soils are like. The holes are not spaced in a regular pattern but are located according to the lay of the land. The marshes and swamps were surveyed in less detail than the cultivated soils. The coastal-marsh areas in the eastern part of the parish are easily accessible. They were observed at sites a quarter of a mile to 2 miles apart. The coastal-marsh areas west of Bayou Sale ridge are not easily accessible either by boat or on foot. The soils were observed at sites a quarter of a mile to 3 miles apart.

In most soils there are several distinct layers, called horizons, which collectively are known as the soil profile. Each layer is studied to see how it differs from others in the profile and to learn the things about the soil that influence its capacity to support plants.

Color is usually related to the amount of organic matter. The darker the surface soil, as a rule, the more organic matter it contains. Streaks and spots of gray, yellow, and brown in the lower layers generally indicate poor drainage and poor aeration. The very dark gray or black Iberia soils contain larger amounts of organic matter than the brown Cypremort soils.

Texture, or the content of sand, silt, and clay, is determined by the way the soil feels when rubbed between the fingers and is later checked by laboratory analysis. Texture determines how well the soil retains moisture, plant nutrients, and fertilizer, and whether it is easy or difficult to cultivate. The fine-textured Iberia clay retains moisture, fertilizers, and plant nutrients longer but is more difficult to cultivate than the medium-textured Cypremort very fine sandy loam.

Structure, which is the way the individual soil particles are arranged in larger grains and the amount of pore space between grains, gives us clues to the ease or difficulty with which the soil is penetrated by plant roots and by moisture. Plant roots, air, and moisture easily penetrate the clay subsoil of Baldwin silty clay loam (which has a strong medium angular blocky structure). Alligator clay has a clay subsoil with massive structure that is unfavorable for the free movement of plant roots, air, and moisture.

Consistence, or the tendency of the soil to crumble or to stick together, indicates whether it is easy or difficult to keep the soil open and porous under cultivation.

Cypremort very fine sandy loam has a loose consistence when dry. It is friable when moist and nonsticky when wet. It is open and porous within a wide range of moisture content. Iberia clay has a hard consistence when dry. It is firm when moist and plastic when wet. This soil is usually sticky and cloddy when cultivated.

Other characteristics observed in the course of the field study and considered in classifying the soil include the following: The depth of the soil over compact layers; the steepness and pattern of slopes; the degree of erosion; the nature of the underlying parent material from which the soil has developed or is being formed; and the reaction of the soil as measured by chemical tests. Reaction refers to the degree of acidity or alkalinity of a soil mass, expressed in either pH value or in words, as follows:

Extremely acid	below 4.5	Neutral	6. 6–7. 3
Very strongly acid	4. 5–5. 0	Mildly alkaline	7. 4–7. 8
Strongly acid	5. 1–5. 5	Moderately alkaline	7. 9–8. 4
Medium acid	5. 6–6. 0	Strongly alkaline	8. 5–9. 0
Slightly acid	6. 1–6. 5	Very strongly alkaline	9.1, higher

CLASSIFICATION.—On the basis of the characteristics observed by the survey team or determined by laboratory tests, soils are classified by series, types, and phases.

As an example of soil classification, consider the Patoutville series of St. Mary Parish. This series is made up of

the following two soil types, one of which is subdivided into phases:

Series	Type	Phase
Patoutville	Silt loam	(Not divided into phases.)
	Very fine sandy loam	Level phase.
		Eroded gently sloping phase.

Soil series.—Soils similar in kind, thickness, and arrangement of soil layers, are normally designated as a soil series. In a given area, however, it frequently happens that a soil series is represented by only one soil type. Each series is named for a place near which it was first mapped.

Soil type.—Soils having the same texture in the surface layer and similar in kind, thickness, and arrangement of soil layers are classified as one soil type.

Soil phase.—Because of differences other than those of kind, thickness, and arrangement of layers, some soil types are divided into two or more phases. Slope variations, degree of erosion, depth of soil over the substratum, or natural drainage are examples of characteristics that suggest dividing a soil type into phases.

The soil phase (or the soil type if it has not been subdivided) is the unit shown on the soil map. It is the unit that has the narrowest range of characteristics. Use and management practices therefore can be specified in more detail than for soil series or yet broader groups that contain more variation.

Miscellaneous land types.—Fresh stream deposits or areas of swamps and marshes are not classified into types and series, except for Baldwin silt loam, salty variant, but are identified by descriptive names, such as Local alluvium, poorly drained, and Swamp, clays and mucky clays.

Soil complex.—When two or more soils are so intricately associated in small areas that it is not feasible to show them separately on the soil map, they are mapped together and called a soil complex. In St. Mary Parish, Buxin-Portland-Perry soils, nearly level phases, is an example of a soil complex.

Soil Associations

A soil association is an area of land in which one or more soil types occur in a characteristic pattern. The soils in an association may differ widely in important characteristics. Each area of the association, however, has a certain repeating pattern of the same important soil types and of other features that give it a characteristic landscape.

The soil associations recognized in St. Mary Parish are shown on the soil association map at the back of this report. Each association is identified on the map by a number and a color. The name of each association describes important characteristics common to all the soils of the association, in most cases texture and relief.

Silty Soils, Gently Sloping to Steep, Over Salt Domes: Richland and Lintonia Soils

This association is comprised of gently sloping to steep undifferentiated silty Richland and Lintonia soils. It lies mainly in two areas next to the coastal marsh. These areas occur as forested soils over salt domes on Cote Blanche Island in the southwestern part of the parish and on Belle Isle in the southern part. They are at elevations that range from sea level to more than 100 feet.

The soils of this association have developed on terraces from old alluvium washed from areas of loess. This old loessal alluvium over salt domes once lay buried under deposits of more recent alluvial material. It was forced to the surface by stresses within the earth, accompanied by the intrusion of salt plugs from deep-seated salt beds, and it now lies at elevations of more than 100 feet above sea level.

The high temperatures and large amount of precipitation have caused much of the plant nutrients and bases to leach out of these soils. As a result the soils are medium acid to very strongly acid and are low in organic matter.

The Lintonia soils are well drained. The Richland soils are moderately well drained and have a well-developed fragipan (dense, brittle layer) beginning at depths of about 18 inches. These soils have been severely damaged by sheet and gully erosion. They are not suited to tilled crops and are used for growing trees and for seasonal grazing. The present vegetation consists mainly of a dense stand of mixed hardwoods.

Silty and Loamy Acid Soils on Low Terraces: Patoutville

This association is comprised of the silty and loamy Patoutville soils. The areas are small. They occur in the western part of the parish, where they lie next to areas of Baldwin and Cypremort soils and at about the same elevation. The soils have developed on low terraces of level to nearly level relief and are imperfectly drained. Their parent material was medium-textured, slightly acid to mildly alkaline alluvium of the late Pleistocene epoch. The native vegetation consisted mainly of prairie grasses, but mixed hardwoods grew on small scattered areas.

The soils of this association are older and more leached of bases and plant nutrients than soils in adjacent areas. They have a medium acid to strongly acid surface soil and subsoil and a slightly acid to mildly alkaline substratum. They are moderately productive and locally are important for row crops.

Silty, Loamy, and Clayey, Slightly Acid Soils on Low Mississippi River Terraces: Baldwin, Iberia, Cypremort, Jeanerette

This association is comprised of silty, loamy, and clayey soils of the Baldwin, Iberia, Cypremort, and Jeanerette series. Most of the soils are slightly acid. They occur on the ridges of the natural levees along Bayous Teche, Cypremort, and Sale and along smaller streams.

The largest areas of the association occur on the natural levee ridges along Bayou Teche, which extends northwest to southeast across the northern part of the parish. Other large areas occur on the ridges along Bayou Cypremort in the southwestern part of the parish and along Bayou Sale, which extends through the central part of the parish from the Bayou Teche natural levee southward to the gulf.

The natural levees along the bayous have been built up to well above the level of the marshes by the sediments that were deposited along the stream channels during floods. The ridges in the northwestern part of the parish along Bayou Teche rise to elevations of 5 to 16 feet and are 6 miles wide. The ridges become progres-

sively narrower and lower farther south and east and at Amelia, in the eastern part of the parish, their elevation is 3 to 6 feet and their width is 0.2 to 0.4 mile.

The soils of this association are nearly level and are moderately well drained to poorly drained. They are older than the soils of the bottom lands and have fairly well developed profiles. They have formed from slightly acid to moderately alkaline alluvial sediments. Part of these sediments were deposited by the Mississippi River and its distributaries during the time when the river followed the present channel of Bayou Teche. Some were deposited by the Red River, which also followed the Bayou Teche channel at one time.

The soils are well supplied with plant nutrients. They are the best for cultivated crops of any soils in the parish. Because of differences in texture and in slope and elevation, they differ somewhat in ease of cultivation and in need for artificial drainage. Most of the areas are used for row crops, but the smaller areas are in pasture or forest.

The soils of this association are separated into three groups. These are—

(1) Soils of the front lands of the natural levee ridges.
(2) Soils of the mixed lands of the natural levee ridges.
(3) Soils of the back lands of the natural levee ridges.

Soils of the front lands of natural levee ridges.—This area is comprised of soils that are known locally as front lands. In it are all of the Cypremort soils; Baldwin very fine sandy loam; Baldwin silt loam; Baldwin silt loam, low phase; Baldwin silt loam, compacted phase; and Baldwin silt loam, dark-colored surface phase.

These soils are the best drained and the coarsest textured of any of the soils of the natural levee ridges and occur at the highest elevations. They lie on or near the crests of the ridges and at slightly higher elevations than the soils of the mixed lands. The native vegetation under which they have developed consisted of prairie grasses and hardwood trees that grew on small scattered areas.

Most of these soils have a medium acid or slightly acid surface layer and subsoil and a slightly acid or mildly alkaline substratum. They are moderately well drained to imperfectly drained. Internal drainage is medium to slow, and runoff is slow in most places. The soils receive no runoff or only slight runoff from other soils. As a result, they need less artificial drainage than the soils of the mixed lands for profitable yields of row crops. The homes on many of the farms on the front lands have their frontage on the bayous.

Soils of the mixed lands of the natural levee ridges.—This area is comprised of soils that have developed from mixed sediments of silt loam, silty clay loam, silty clay, and clay. These materials were deposited on the backslopes of the ridges when streams of the Teche-Mississippi River system overflowed their banks. The soils of the mixed lands are Baldwin silty clay loam; Baldwin silty clay loam, low phase; Baldwin silty clay; Baldwin silty clay, compacted phase; and Baldwin silty clay loam, compacted phase.

The mixed lands occupy areas intermediate in elevation between the higher front lands and the lower back lands. They are level to nearly level. The native vegetation consisted mainly of prairie grasses, but mixed hardwoods grew on small scattered areas. Most of the areas are now used for cultivated crops.

The mixed lands are imperfectly drained; both runoff and internal drainage are slow. The soils generally contain more organic matter, are finer textured, and are less well drained than the soils of the front lands. They generally contain less organic matter, are finer textured, lighter colored, and better drained than soils of the back lands. These soils have a medium acid or slightly acid surface soil, a slightly acid or neutral subsoil, and a neutral or mildly alkaline substratum.

Soils of the back lands of the natural levee ridges.—This area is comprised of soils that occupy the lower backslopes of the natural levee ridges. It is made up of soils of the Iberia and Jeanerette series and includes the complex of Jeanerette-Iberia very fine sandy loams.

The soils have developed under swamp or mixed swamp and marsh vegetation. Their parent material was slightly acid to alkaline alluvium that accumulated in shallow lakes and embayments. The organic matter that is mixed with the mineral materials has colored the soils black or very dark gray.

The Iberia soils are the predominant soils of this group. They occupy level areas or depressions and are poorly drained. Their subsoil is clay or silty clay.

The Jeanerette soils comprise a smaller part of the acreage. These soils are better drained than the Iberia soils. They have developed from sediments of very fine sandy loam, silt loam, and silty clay loam, deposited in the water that once covered the area. Most of these sediments settled along the shore areas of former lakes. The subsoil of the Jeanerette soils consists of friable silty clay loam.

Soils of the Bottom Lands: Swamp, Clays and Mucky Clays; Buxin-Portland-Perry Soils; Mixed Clay Alluvium

This soil association is comprised of large areas of bottom-land soils developing from recent alluvium deposited by the floodwaters of the principal streams. Most of the areas are at elevations between sea level and 6 feet. The areas are frequently flooded and are unsuited to cultivated crops. They are used principally for forests and for seasonal grazing.

Other areas, occupied by soils known as high-bottom soils, lie well above the parts of the association that are flooded. These areas occur along the borders of the natural levee ridges and along the channels and former channels of the Teche-Mississippi River system. The high-bottom soils are used for cultivated crops and pasture.

The soils of this association are separated into the following two groups:

(1) Soils on alluvium brought down by the Mississippi River.
(2) Soils on mixed alluvium brought down by the Mississippi and Red Rivers.

Soils on alluvium brought down by the Mississippi River.—Most of these soils occur in the backswamp areas that border natural levee ridges. They have formed from thick deposits of slightly acid to moderately alkaline gray silts and clays that were deposited primarily by the Mississippi River. The group consists of Alligator clay; Alligator clay, overflow phase; Made land in swamp; and some areas of Swamp, clays and mucky clays.

The areas are poorly drained or very poorly drained, and most of those not protected by levees are frequently flooded. They are used for forests and seasonal grazing. The vegetation generally consists of a dense growth of cypress, tupelo-gum, swamp maple, and swampbay trees.

Some areas on the fringes of the swamps occur at slightly

higher elevations. These are used for cultivated crops and pasture.

Soils on mixed alluvium brought down by the Mississippi and Red Rivers.—The soils of this group include gray sediments deposited by the Mississippi River and red and brown sediments deposited by the Red River. The soils are imperfectly drained to very poorly drained. They are slightly acid to mildly alkaline. The group is comprised of gently sloping phases, nearly level phases, and level overflow phases of Buxin-Portland-Perry soils; Sharkey-Alligator clays; Mixed clay alluvium (overflow phase); Local alluvium, poorly drained; and some areas of Swamp, clays and mucky clays, that are made up of mixed alluvium.

The soils occupy large areas in the northern and eastern parts of the parish. Some occur on the delta of the Atchafalaya River and on the shores of Grand, Six Mile, and Palourde Lakes. Other large areas are in the coastal marsh east of the outlet channel of Wax Lake. Most of these are frequently flooded. They are used for forest, seasonal grazing, hunting, and trapping.

Higher lying areas of these soils occur along the channels of streams of the Teche-Mississippi River system at elevations ranging from 4 to 15 feet above sea level. These soils of high bottoms are used for cultivated crops and pasture. Small but agriculturally important areas of Made land (Portland and Perry soil materials) occur in association with the soils of the high bottoms and soils of the low Mississippi River terraces.

Organic Soils and Clays of the Marshes

This soil association is made up of organic soils and clays of the coastal marshes. It comprises more than one-third of the land area of the parish. Some of the principal soils are Brackish marsh, peat; Brackish marsh, muck; Brackish marsh, clays and mucky clays; Drained marsh, clays; and Fresh water marsh, clays and mucky clays. The areas are in the southern part of the parish along the Gulf of Mexico. They extend 5 to 10 miles inland. On the north they are bordered by the organic soils of the swamps, the soils of the bottom lands, and the soils on the low terraces of the natural levee ridges.

The coastal marsh on which these soils occur is a broad, flat plain of low relief that has an imperceptible slope toward the gulf. Much of it is frequently flooded by shallow tidal waters. Other parts are likely to be flooded by the overflow of streams. Low ridges, ranging from a few inches to a foot or more in height above the marsh, have been built up along the tidal channels and large streams. The low natural levee ridges of Bayous Sale and Cypremort extend across this area in a northeast to southwest direction.

The marsh areas contain an intricate network of bayous and canals, many of which are navigable. There are also many shallow lakes of various sizes, and most of these are near sea level.

The soils of this association are made up of silts, silty clays, and clays from recent alluvium and marine silts and clays. In places these materials are overlain by peats and mucks of varying thickness (*7*).

The clay soils of the coastal marsh have a gray or grayish-brown surface layer of clay, silty clay, or mucky clay, 4 to 12 inches thick, that contains varying amounts of organic matter. The surface layer is underlain by gray, plastic, massive clay or silty clay. In some places thin lenses of peat or muck occur at depths of 3 to 10 feet or more.

The peat soils are brown or black and are made up of fine to coarse fibrous materials. The fibrous materials are partly decomposed and contain from 50 percent to more than 80 percent organic matter. The surface layers of the peat soils commonly consist of a mat of the coarse remains of recent plants.

The mucks are dark gray or black. They are made up of very finely divided organic materials that are in a much more advanced state of decomposition than the materials in the peat soils. The muck soils contain from 15 to 50 percent organic matter and varying amounts of mineral soil materials. The layers of muck range from less than 2 feet to more than 6 feet in thickness and overlie silts and clays.

Organic soils of the marshes contain considerable amounts of sulfates and chlorides, especially where there are large amounts of organic matter. Experience in other areas shows that the peat and muck soils become extremely acid when they are drained and oxidized.

Because of the subtropical climate and abundant water, the areas of this association are covered by a thick growth of plants. The vegetation varies according to the degree of salinity or freshness of the water and according to the length of time that saline or fresh waters have been dominant or how frequently they occur.

Marsh vegetation on sites dominantly influenced by fresh water or nearly fresh water consists of plants that have a salt tolerance of up to 0.5 percent (*8*). These plants are common on the margin of the marshes farthest from the gulf and on other sites that receive enough fresh water to flush out the salts left by former inundations of salt water.

The brackish-water vegetation consists of plant species that have a salt tolerance of 0.5 to 2.0 percent salt. Most of this vegetation occurs along the gulf and at various distances inland on sites that are frequently flooded by saline or brackish waters. Precipitation is generally the only source of fresh water in these areas.

Small scattered areas of marshlands near the coast are covered by vegetation that is tolerant of salt water. Marsh plants that grow in salt water sites have a salt tolerance of 2.0 to 5.0 percent salt.

A few important areas of marshland, most of which are small, have been reclaimed for agriculture. These areas occur along the landward border of the coastal marsh. The largest are in the western and southwestern parts of the parish next to and at about the same elevations as areas occupied by soils of the Alligator and Iberia series. The reclaimed soils are Drained marsh, clays; and Baldwin silt loam, salty variant.

Organic Soils of the Swamps

This association is comprised of large areas of alluvial silts and clays that have surface layers high in organic matter. It occurs as fringe areas between the higher lands of the natural levees and the lower marshlands. Most of this association occurs west of Bayou Sale ridge and between this ridge and Wax Lake. The principal soils are Swamp, peat, and Swamp, muck.

Swamp, peat, occurs in lake or basin areas where the organic materials are covered by water. As a result, little oxidation takes place. A few inches to 2 feet of water covers Swamp, peat, most of the time. Swamp, muck,

occurs in sites that are under water only part of the time. During times when the soil is exposed to the air, the organic matter decomposes more completely.

Neither of these soils receives much alluvium, but both receive considerable fresh water from higher areas. Most areas are covered by a dense growth of cypress and tupelo-gum trees.

Descriptions of the Soils

In the following pages, the soils and miscellaneous land types mapped in St. Mary Parish are described in detail. At the back of this report is a set of maps that shows the location and distribution of each soil and land type. The approximate acreage and proportionate extent of each soil and land type are given in table 4.

Alligator Series

The Alligator series consists of poorly drained to very poorly drained fine-textured soils of the Mississippi River bottom lands. The soils occupy backswamp areas along the edges of the natural levee ridges. They are associated with the Iberia and Sharkey soils. They occur in level or depressed areas that are generally the catch basins for runoff water from the natural levee ridges.

Alligator clay (Aa).—This is a poorly drained soil of the Mississippi River bottom lands. It occupies level or depressed areas on the edges of the natural levee ridges. This soil occurs at elevations of 2 to 5 feet, which is slightly higher than the associated Swamp, clays and mucky clays, and slightly lower than the associated Iberia and Sharkey soils. It does not have the dark-gray surface layer and the good structure typical of many of the Iberia and Sharkey soils.

This soil is artificially drained by open ditches and is protected from overflow by levees. Some areas occur at high enough elevations and have enough slope to be drained by gravity. As a rule, however, the excess water is removed from the fields by pumping.

The native vegetation consisted of water oak, sweetgum, hackberry, cypress, swamp maple, ash, and tupelo-gum.

Typical profile:

0 to 3 inches, gray plastic clay mottled very dark grayish brown; weak fine granular; slightly acid.
3 to 10 inches, gray plastic clay mottled yellowish brown; massive; slightly acid.
10 to 30 inches, gray plastic clay; a few, large, prominent mottles of pale brown; massive; slightly acid to neutral.
30 to 42 inches, gray plastic clay, in places mottled light yellowish brown; massive; neutral.

The reaction of the substratum ranges from slightly acid to mildly akaline. Runoff is slow to very slow. Internal drainage is very slow, and the water table is generally high. This soil contains moderate amounts of plant nutrients, but the feeding zone for roots is limited by the texture and structure of the soil and by the high water table.

Use and management.—This soil is in management group III–4. When prices are good it is used mainly to grow sugarcane and corn, but it is the first soil to be diverted from intensive cultivation when prices decline. Some irrigated rice is grown. Crop yields are generally fair to moderate, and native pasture and hay crops are good. Nitrogen is commonly used on all the crops.

TABLE 4.—*Approximate acreage and proportionate extent of the soils*

Soil	Area	Extent
	Acres	*Per-cent*
Alligator clay	5, 213	1. 3
Alligator clay, overflow phase	630	. 2
Baldwin very fine sandy loam	2, 171	. 6
Baldwin silt loam	13, 952	3. 6
Baldwin silt loam, low phase	727	. 2
Baldwin silt loam, compacted phase	286	. 1
Baldwin silt loam, dark-colored surface phase	1, 311	. 3
Baldwin silt loam, salty variant	555	. 1
Baldwin silty clay loam	11, 533	3. 0
Baldwin silty clay loam, low phase	988	. 3
Baldwin silty clay loam, compacted phase	2, 763	. 7
Baldwin silty clay	8, 487	2. 2
Baldwin silty clay, compacted phase	2, 167	. 6
Brackish marsh, clays and mucky clays	12, 950	3. 3
Brackish marsh, muck	30, 258	7. 8
Brackish marsh, peat	45, 120	11. 6
Buxin-Portland-Perry soils, gently sloping phases	3, 936	1. 0
Buxin-Portland-Perry soils, nearly level phases	3, 254	. 8
Buxin-Portland-Perry soils, level overflow phases	17, 202	4. 4
Cypremort very fine sandy loam	8, 104	2. 1
Cypremort silt loam	2, 871	. 7
Cypremort silty clay loam, eroded phase	845	. 2
Drained marsh, clays	452	. 1
Fresh water marsh, clays and mucky clays	41, 578	11. 0
Iberia silt loam	2, 344	. 6
Iberia silty clay loam	4, 762	1. 2
Iberia silty clay loam, thin solum phase	2, 808	. 7
Iberia clay	7, 712	2. 0
Iberia clay, thin solum phase	11, 140	3. 0
Iberia clay, compacted phase	1, 418	. 4
Iberia clay, compacted, thin solum phase	2, 212	. 6
Jeanerette silt loam	437	. 1
Jeanerette silt loam, thin solum phase	1, 953	. 5
Jeanerette silty clay loam, thin solum phase	122	(1)
Jeanerette-Iberia very fine sandy loams	1, 237	. 3
Local alluvium, poorly drained	394	. 1
Made land (Portland and Perry soil materials)	1, 077	. 3
Made land in marsh	5, 320	1. 4
Made land in swamp	1, 881	. 5
Mixed clay alluvium (overflow phase)	6, 036	1. 5
Patoutville very fine sandy loam, level phase	767	. 2
Patoutville very fine sandy loam, eroded gently sloping phase	214	(1)
Patoutville silt loam	499	. 1
Richland and Lintonia soils, severely eroded undulating to hilly phases	1, 743	. 4
Sharkey-Alligator clays	4, 143	1. 1
Swamp, clays and mucky clays	65, 669	17. 0
Swamp, muck	21, 835	5. 6
Swamp, peat	24, 124	6. 2
Total	387, 200	100. 0

[1] Less than 0.1 percent.

Good management for this soil includes running the rows with the natural slope of the field and spacing open ditches closely. Some places need levees for flood protection and pumps to remove the excess water. Deep-rooted legumes should be used in the rotation whenever feasible and should be plowed under for green manure. Occasional deep plowing will help to improve the aeration of the soil. Yields are increased when 2 or 3 years of improved pasture is included in the crop rotation.

Alligator clay, overflow phase (Ab).—This poorly drained soil occurs on the Mississippi River bottom lands. Its profile is similar to that of Alligator clay, and the soil

occupies similar positions. Unlike Alligator clay, it is not adequately protected by levees nor is it adequately drained by artificial means. The areas were once cultivated but are now subject to damaging overflows.

This soil occupies level or depressed areas. It is closely associated with Swamp, clays and mucky clays, but occurs at slightly higher elevations and is covered by grass and shrubs instead of forest. Small areas of this soil occupy narrow strips along Bayou Yokely and other streams.

Use and management.—This soil is in management group V–1. It has been abandoned for crops, and the protective levees and structures used for artificial drainage no longer function. If it is adequately drained and protected from overflow and the excess water is removed by pumps, this soil can be used for row crops. With proper management it would be suitable for pasture and rice.

Baldwin Series

The Baldwin series consists of imperfectly drained to poorly drained, level or nearly level soils of the low Mississippi River terraces. The soils have developed from older alluvium, predominantly of Mississippi River and Red River origin. They are the most extensive of the cultivated soils in the parish. Most of them have a plowsole—a compact layer with a massive or platy structure. This has been formed as the result of using heavy farm machinery and plowing the soil at shallow depths.

The Baldwin series consists of soils of the front lands and mixed lands. The soils occur along Bayous Cypremort, Teche, and Sale, and along other streams of the Teche-Mississippi River system that are active or were formerly active. Large areas occur at elevations of 5 to 15 feet on the wider natural levee ridges in the northwestern and western parts of the parish. Smaller areas occur at lower elevations in the western and southwestern parts of the parish. At the southern end of the Bayou Cypremort and Bayou Sale ridges, the soils occur at elevations of 1 to 2 feet, only slightly above the soils of the swamps and marshes. The native vegetation consisted of prairie grasses and scattered areas of mixed hardwood trees.

The Baldwin soils differ from the associated Cypremort soils in having a grayish-brown or very dark grayish-brown instead of a brown surface layer. Their subsoil is slowly permeable clay instead of moderately permeable silty clay loam. The Baldwin soils are lower in organic matter and have a lighter colored surface layer than the Iberia soils. They are not so well drained as the Cypremort soils but are better drained than the Iberia. They generally occur at elevations about halfway between the slightly higher Cypremort soils and the lower Iberia soils.

Baldwin very fine sandy loam (Bm).—This soil occupies small areas on or near the crests of the natural levee ridges. The areas are nearly level to undulating, but most of them have slopes of less than 1 percent. Many of them are in the northwestern and north-central parts of the parish, where they occur at elevations of 6 to 12 feet. Others, in the central and southern parts of the parish, occur at elevations of 5 feet or less. This soil occurs at slightly lower elevations than the associated Cypremort very fine sandy loam and Cypremort silt loam soils of the front lands. It occurs at slightly higher elevations than Baldwin silt loam, and its subsoil is thinner.

Typical profile:

0 to 6 inches, very dark grayish-brown friable very fine sandy loam; moderate medium granular; slightly acid.
6 to 9 inches, dark-gray compact very fine sandy loam thinly laminated with gray and very dark grayish-brown compact very fine sandy loam; strongly acid.
9 to 18 inches, pale-brown plastic clay mottled dark gray and yellowish brown; strong medium angular blocky; neutral.
18 to 42 inches, light brownish-gray friable silt loam or silty clay loam mottled with light yellowish brown; massive to weak subangular blocky; scattered light-gray hard concretions of lime; alkaline.

The subsoil ranges from slightly acid to mildly alkaline in reaction and from moderate to strong fine angular blocky to coarse angular blocky in structure.

The soil is imperfectly drained but has somewhat better drainage than Baldwin silt loam. Surface runoff and internal drainage are medium to slow. Permeability to air and moisture is easily maintained. The content of organic matter is low and the supply of plant nutrients is moderate.

Use and management.—This soil is in management group II–1. Though inextensive, it is an important soil for row crops. All of it is used to grow sugarcane, corn, and truck crops, but it is also suitable for pasture and hay. Crop yields are good to excellent. Drainage is improved by running the rows with the slope and using widely spaced ditches. Needed management includes plowing under green-manure crops, applying complete fertilizer, tilling with the slope, and occasionally plowing deeply to break up the plowsole.

Baldwin silt loam (Ba).—This nearly level soil has a finer surface soil texture and a thicker subsoil than Baldwin very fine sandy loam. It occupies slopes of less than 1 percent. The soil occurs on or near the crests of the natural levee ridges in the areas occupied by soils of the front lands.

This soil generally occurs at slightly lower elevations than the associated Cypremort soils and at higher elevations than the associated areas of Baldwin silty clay loam and Baldwin silty clay. Small to large areas occur in the northwestern and north-central parts of the parish at elevations of 6 to 15 feet. Small areas occur in the southern part of the parish at elevations ranging from sea level to 5 or 6 feet. Most areas are at elevations high enough to provide good gravity drainage.

Typical profile:

0 to 6 inches, very dark grayish-brown friable silt loam; moderate fine granular; slightly acid.
6 to 11 inches, very dark grayish-brown, compact, heavy silt loam or silty clay loam (plowsole layer) mottled with dark gray and gray; weak thick platy; contains many roots and much undecomposed cane refuse; slightly acid.
11 to 24 inches, dark-gray plastic clay about 40 percent mottled with brownish yellow and light yellowish brown; moderate to strong medium and fine angular blocky; contains many roots; slightly acid.
24 to 40 inches, gray slightly plastic silty clay or silty clay loam, about 20 percent mottled with pale brown; weak subangular blocky; neutral.

The surface layer ranges from slightly acid to strongly acid in reaction and is as much as 10 inches thick. The subsoil ranges from slightly acid to slightly alkaline in reaction.

This soil is imperfectly drained; surface runoff and internal drainage are slow. The soil contains moderate amounts of organic matter and plant nutrients.

Included with this soil are areas in which the subsoil is yellow, red, and brown and the subsoil structure is strong fine angular blocky. These charactertistics are caused by a predominance of Red River sediments in the parent material.

Use and management.—This soil is in management group II–1. It is a good agricultural soil—one of the better farming soils of the parish. Most areas have been cultivated for more than a hundred years. Most of the soil is used to grow sugarcane, corn, and soybeans, but it is also suited to rice, pasture, and hay. Yields are generally good if a complete fertilizer mixture is used. Green-manure crops, turned under, also improve yields. Good surface drainge is easily obtained by running the furrows with the slope and by using occasional widely spaced ditches. The soil drainage is improved if the plowsole layer is broken up.

Baldwin silt loam, low phase (Bd).—This soil is not so well drained as Baldwin silt loam. It occurs in small areas on slopes of less than 1 percent, at or near the crests of the very low natural levee ridges. The largest areas are along the southern parts of the low natural levee ridges of Bayous Sale and Cypremort. The lowest parts of the areas that adjoin swamps and marshes are near sea level. The areas that lie next to Cypremort soils are at elevations of about 4 feet.

The water table is usually high in this soil, and drainage is imperfect to poor. Surface runoff and internal drainage are slow to very slow. The areas are frequently ponded when water covers the adjoining areas of marshes and swamps. Artificial drainage is ineffective unless the soil is protected from flooding by dikes and the water removed by pumping. These improvements are impractical, however, because the soil occurs at such low elevations and the areas are so small, irregular, and narrow.

The natural vegetation consists of live oak, water oak, sweetgum, myrtle and hackberry trees, and a dense undergrowth of blackberries, yaupon, switch cane, palmetto, greenbrier, and honeysuckle.

Use and management.—This soil is in management group V–1. It is not suitable for tilled crops unless protected from flooding by levees and drained by pumps. Most of the several small areas are covered by trees, but some are in brush-and-grass pasture. The soil in a few small fields has been cultivated during the past 25 years, but most areas have never been tilled because they are inaccessible or are too far from the plantation headquarters or from sugar mills. The most practical uses of the soil are for forest or pasture or for hunting and trapping.

Baldwin silt loam, compacted phase (Bb).—The practice of using heavy farm machinery on this soil, flooding it frequently, and working it wet have destroyed the good structure typical of Baldwin silt loam. The subsoil has become compact and puddled. This is one of the soils of the front lands. It occurs on level or nearly level areas that have slopes of less than 1 percent at or near the crests of the natural levee ridges. The areas are small. They occur in the northwestern and northeastern parts of the parish.

Typical profile:

0 to 6 inches, grayish-brown silt loam; contains many rice roots surrounded by yellowish-brown material; weak granular and thin platy; medium acid to slightly acid.
6 to 12 inches, grayish-brown plastic clay; contains many rice roots; large and small areas of brownish-yellow and yellowish-brown materials around roots and root holes; massive; medium acid.
12 to 18 inches, grayish-brown plastic clay with many small- to medium-sized distinct mottles of yellowish brown; massive; strongly acid to medium acid.
18 to 22 inches, grayish-brown plastic clay; many small- to medium-sized distinct mottles of yellowish brown; massive to weak fine subangular blocky; medium acid.
22 to 40 inches, grayish-brown plastic clay mottled yellowish brown; massive; medium acid.

The surface layer ranges from grayish brown to very dark grayish brown in color and is as much as 10 inches thick. The upper part of the subsoil ranges in color from grayish-brown with yellowish-brown mottles to dark gray with yellowish-brown mottles. The structure of the upper part of the subsoil ranges from massive to moderate thin platy. The lower part of the subsoil ranges from predominantly grayish brown to gray in color and from massive to weak subangular blocky in structure. The reaction of the lower part of the subsoil and the substratum ranges from medium acid to mildly alkaline.

This soil is imperfectly drained. Surface runoff is slow, and internal drainage is slow to very slow. Permeability is not favorable for row crops at present. The soil contains moderate amounts of organic matter and plant nutrients.

Use and management.—This soil is in management group II–1. All of it is used to grow rice, and fair to moderate yields are obtained. The soil is well suited to this crop and to pasture and hay. Because of the nearly level relief and slow permeability, the ricefields are easily flooded and there is no appreciable loss of water. They are easily drained by gravity. Some nitrogen and complete fertilizer are commonly applied to rice. The yields are improved by using good crop rotations, including some green-manure crops, and by applying complete fertilizer.

Although the condition of this soil is poor, it produces fair yields of sugarcane and corn. Management practices needed to improve the soil tilth, structure, and permeability so that profitable yields of sugarcane and corn will be obtained include tilling with the slope, turning under green-manure crops, applying fertilizer, and rotating crops with improved pasture.

Baldwin silt loam, dark-colored surface phase (Bc).—This imperfectly drained soil has a darker colored surface layer and subsoil than typical Baldwin silt loam. It has a dark-gray or very dark-brown subsurface layer and a mottled very dark-gray subsoil. Its substratum is gray, mottled, friable silty clay loam or sandy loam. In most areas the subsoil and substratum are more alkaline than those of the typical Baldwin silt loam. This soil appears to be transitional to the Iberia soils.

The largest areas of this soil are along Bayou Cypremort. The soil occupies slopes of less than 1 percent at or near the levee ridge crests at Alice B., Ivanhoe, Florence, and Richland plantations. The areas occur at elevations of between 4 and 7 feet. They occur at slightly lower elevations than the associated Cypremort very fine sandy loam and Cypremort silt loam and at slightly higher elevations than the Iberia soils.

Typical profile:

0 to 7 inches, very dark grayish-brown friable silt loam; moderate fine granular; medium acid; surface crust, when dry, is light brownish gray with much white efflorescence.
7 to 10 inches, very dark brown compact silt loam; weak medium and thick platy; mildly alkaline.
10 to 18 inches, dark-gray plastic clay; mottled brown and dark

grayish brown; strong medium and fine angular blocky; a few small brown concretions; moderately alkaline.
18 to 24 inches, dark-gray friable silty clay loam; many small faint brown mottles; massive; moderately alkaline.
24 to 30 inches, mottled gray, dark-gray, and light olive-brown silty clay; massive; moderately alkaline.
30 to 44 inches, gray very fine sandy loam or very fine sand; moderately alkaline.

The color of the surface layer ranges from very dark grayish brown to dark gray, and the reaction ranges from medium acid to moderately alkaline. The color of the subsoil ranges from black to very dark grayish brown, and the reaction from moderately alkaline to medium acid. Hard lime concretions occur in many places in the substratum.

This soil has slow to medium runoff and slow internal drainage. It can be tilled over a moderate range of moisture content. The soil contains moderate amounts of organic matter and plant nutrients. Its content of organic matter and plant nutrients is greater than that of Baldwin silt loam or that of the Cypremort soils. Permeability is generally favorable for all the common crops.

Use and management.—This soil is in management group II–1. All of it is used to grow sugarcane and corn, but it is also suited to pasture and hay. The yields of sugarcane and corn are good to excellent. Good management practices to increase yields are applying complete fertilizer, breaking up the plowsole layer, and tilling with the slope so that surface water will run off more rapidly.

Baldwin silt loam, salty variant (Be).—This marshland soil is comprised of thinly stratified fine- and medium-textured alluvium, largely of Mississippi River origin. The alluvium was carried by the Bayou Cypremort and deposited along the edges of the natural levee ridge.

The mixed deposits of silt loam, silty clay loam, clay, and very fine sandy loam were laid down at marsh level and have been influenced by the tidal waters of the marsh. Salts in various amounts have accumulated in this soil, especially in areas of shallow, sinuous surface drains that developed as a result of natural runoff of the surface water. The salt content of these small drainage channels has been increased by evaporation, and the vegetation adapted to fresh or brackish water has been replaced by plants adapted to saline soils. The sites of the former sinuous surface drainageways may be traced across cultivated fields as "salt spots" that are devoid of vegetation.

This soil occurs on low, nearly level areas that are slightly higher than the associated marsh and swamp soils. It occurs at slightly lower elevations than the Baldwin, Cypremort, and Iberia soils. The native vegetation consisted of mixed marsh plants that were adapted primarily to brackish water.

Typical profile:

0 to 6 inches, grayish-brown silt loam with a fluffy, deflocculated appearance; when dry, light gray or light brownish gray with considerable white efflorescence; weak fine granular; medium acid.
6 to 8 inches, grayish-brown compact silt loam; strong thin platy; fine faint mottles of dark grayish brown, dark yellowish brown, and yellowish brown on the thin plates; slightly acid.
8 to 18 inches, grayish-brown silty clay loam; many, fine, distinct mottles of dark gray and yellowish brown; massive; mildly alkaline.
18 to 28 inches, grayish-brown heavy silty clay loam or silty clay; many, fine, prominent mottles of gray and yellowish brown; a few brown and brownish-yellow lime-iron concretions and a few whitish soft lime concretions; moderate medium and fine angular blocky; moderately alkaline.
28 to 40 inches, light brownish-gray very fine sandy loam; many, fine, distinct mottles of dark gray, dark brown, and grayish brown; mildly alkaline.

The succession of the stratified fine- and medium-textured materials varies throughout the soil areas. The surface layer ranges in texture from silty clay to very fine sandy loam and in color from grayish brown to brownish gray. In reaction it ranges from medium acid to mildly alkaline. Between depths of 6 and 18 inches, the color ranges from grayish brown to predominantly gray. At some places the lime concretions are not present in the 18- to 28-inch layer, and this layer ranges from moderately alkaline to medium acid. The texture below about 28 inches ranges from very fine sandy loam to silty clay.

Surface runoff and internal drainage are slow to very slow in this soil. More than 60 years ago, dikes were built to protect the soil, the water was pumped out, and the areas were reclaimed from the marsh. The spoil banks along the Intracoastal Waterway and the levees along smaller canals now protect the soil from overflow by the normal tides.

Areas of this soil that border the swamps, Drained marsh, clays, and the Alligator soils, are usually wet. These flat, low-lying areas receive runoff water from the soils of the natural levee ridges.

Use and management.—This soil is in management group III–4. Except for the lower areas near the present marsh, which are too saline for crops, most of the soil is used to grow sugarcane, corn, and hay, and some areas are pastured. Pumps are not used to remove excess water from the areas that are farmed. The excess water is removed from these higher areas by open ditches, and crops produce good yields. To improve yields of row crops on lower lying areas, not adequately protected from tidal water and seepage water, and on areas where runoff water accumulates, planters need to construct levees and to install pumps. The soil needs fertilizer, and green-manure crops should be plowed under.

Baldwin silty clay loam (Bh).—This level to nearly level soil has a thinner and finer textured surface soil than Baldwin silt loam and occurs at lower elevations. It is on slopes of less than 1 percent. The soil commonly occupies long narrow strips within larger areas of soils of the mixed lands that are on the backslopes of the natural levee ridges. Large areas occur at elevations of 8 to 15 feet in the northwestern and north-central parts of the parish.

On the lower and smaller natural levee ridges in the northeastern, eastern, and southern parts of the parish, this soil occurs at elevations of 4 to 6 feet above sea level. It occupies areas that are slightly lower in elevation than those occupied by the Cypremort soils and slightly higher than the ones occupied by the associated Baldwin silty clay and the Alligator and Iberia soils.

In its typical position on the backslopes of the natural levee ridges, the soil receives part of the runoff from the areas of front-land soils. The areas in the western and northwestern parts of the parish, however, occur on the levee crest, so they do not receive runoff. A profile of this soil is shown in figure 3.

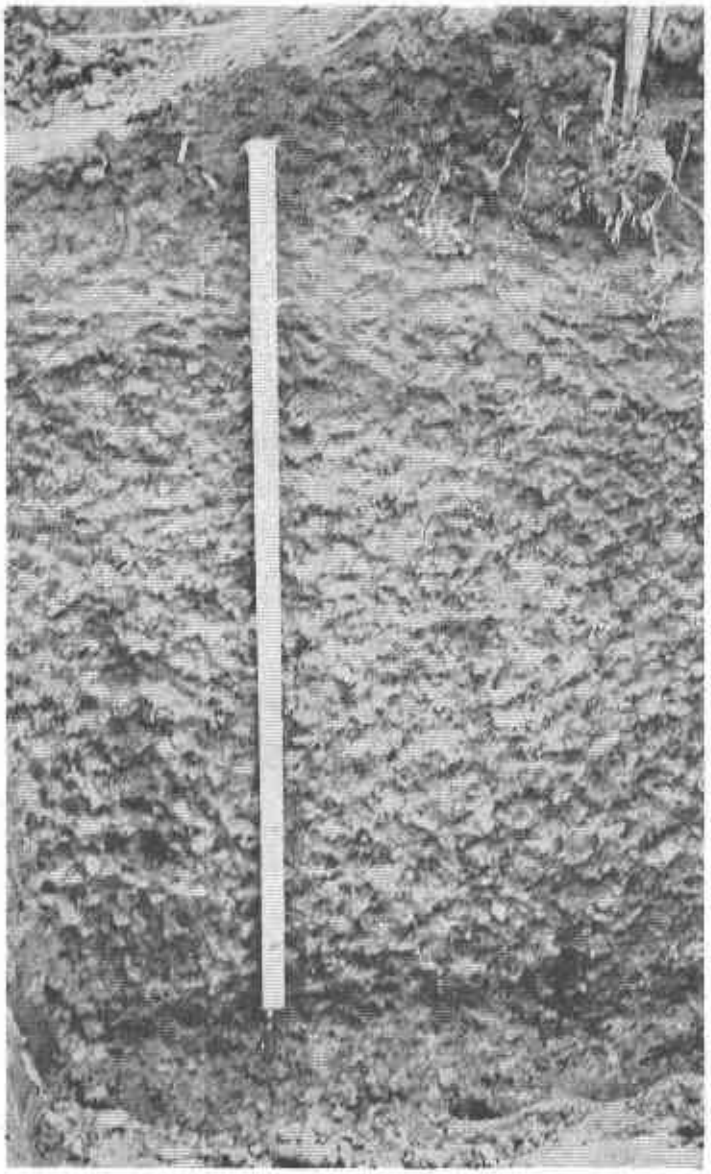

Figure 3.—**Profile of Baldwin silty clay loam observed at the Katy plantation in the northwestern part of the parish. A plowsole occurs in the upper part of the profile.**

Typical profile:

0 to 6 inches, very dark grayish-brown silty clay loam; slightly plastic when wet, moderately firm when dry; moderate fine granular; medium acid.
6 to 8 inches, gray silty clay loam (plowsole layer) mottled very dark grayish brown and dark yellowish brown; compact and slightly plastic; moderate to strong medium platy; slightly acid.
8 to 12 inches, very dark gray plastic clay mottled with yellowish brown; strong medium angular blocky; slightly acid.
12 to 28 inches, mottled gray, dark-gray, and pale-brown plastic clay; strong medium angular blocky; slightly acid to neutral.
28 to 42 inches, mottled gray, dark-gray, and pale-brown plastic silty clay or clay; massive; neutral.

The plowsole layer ranges in thickness from 2 to 6 inches. The subsoil ranges in color from predominantly very dark gray to mottled gray, dark gray, and yellowish brown. The substratum ranges in texture from silty clay or clay to silt loam. The reaction of this soil ranges from strongly acid to neutral.

This soil is imperfectly drained. Runoff and internal drainage are slow. The soil can be tilled over a moderate range of moisture content. If it is tilled with the slope, the surface water drains off through the rows or through open ditches so that most areas dry out and can be worked a short time after rains. The content of organic matter and plant nutrients is moderately high. Permeability is moderate to good in most areas.

Included with this soil are areas in which Red River sediments were predominant in the parent material. These soils have a clay subsoil in which the structure is strong fine angular blocky. In most places these soils are mottled, but in some there are stratified colors of strong brown, red, yellowish brown, and grayish brown. Soils with considerable amounts of red and brown sediments occur in the northern part of the parish along the Bayou Teche course of the Red River and along former stream channels that carried Red River sediments.

Use and management.—Baldwin silty clay loam is in management group II–3. This is an important agricultural soil. It has been cultivated for approximately a hundred years. It is well suited to rice, pasture, and hay. Most of it is used for sugarcane, corn, and soybeans, but small areas are used for pasture or hay.

The value of the soil for row crops depends primarily upon the rate that the surface water, collected from rains and from runoff from higher lying soils, can be drained away. Deep, well-constructed, and properly spaced lateral ditches and row drainage are effective in removing surface water. The soil should be tilled with the slope.

Ordinarily, nitrogen is the only fertilizer used on this soil, but yields have been increased by using a complete fertilizer. Green-manure crops should be plowed under, complete fertilizer used, and diseases, weeds, and insects controlled.

Baldwin silty clay loam, low phase (Bl).—This soil of the mixed lands is level to nearly level. It lies at lower elevations, has a higher water table than the other Baldwin silty clay loams, and has less effective natural drainage. It is on slopes of less than 1 percent. This soil occurs at elevations of 2 to 4 feet above sea level on the backslopes of the narrow natural levee ridges. It occupies small areas in the northwestern, western, and northeastern parts of the parish. The largest areas are in the southern part of the parish along Bayou Sale ridge. The soil is associated with the higher soils of front lands and with the lower Iberia, Alligator, and Swamp soils.

This soil is imperfectly drained to poorly drained. Runoff is slow to very slow, and internal drainage is very slow. The areas are often ponded when floodwaters or tidewaters cover the nearby marshes and swamps. The surface layer is slightly acid to strongly acid, and the subsoil is medium acid to mildly alkaline. The soil contains moderate amounts of organic matter and plant nutrients.

The wooded areas are covered by white oak, red oak, live oak, and sweetgum, myrtle, and bay trees.

Use and management.—This soil is in management group V–1. It is not suitable for row crops or rice. Most areas are irregular in shape and are inaccessible. The cost of constructing dikes and of removing the water by pumping is prohibitive. Good native grass pastures can be established on most of the areas. Part of the soil is under

forest, and part is pastured. All of it is used for hunting and trapping.

Baldwin silty clay loam, compacted phase (Bk).—This soil resembles Baldwin silt loam, compacted phase, but has a somewhat finer textured surface layer and occurs at lower elevations. It is a soil of the mixed lands. It occurs on slopes of less than 1 percent on the backslopes of the natural levee ridges. Small- to medium-sized areas occur throughout the parish in association with the higher lying Cypremort soils and with the lower lying Alligator soils and Baldwin silty clay, compacted phase. In the northwestern part of the parish, the soil occurs at elevations of 8 to 15 feet, and in the northeastern part, it occurs at elevations of 3 to 6 feet.

Typical profile:

0 to 5 inches, very dark grayish-brown friable silty clay loam; moderate fine granular; medium acid to strongly acid.
5 to 9 inches, very dark grayish-brown compact silty clay loam mottled with gray and yellowish brown; massive to weak medium platy; medium acid.
9 to 20 inches, mottled dark-gray, gray, and yellowish-brown plastic clay or silty clay; massive to weak subangular blocky; medium acid to slightly acid.
20 to 40 inches, gray friable silty clay loam mottled with yellowish brown; massive; medium to slightly acid.

This soil is imperfectly drained. Surface runoff is slow, and internal drainage is very slow. The surface layer and subsoil have become compacted as the result of growing rice on the areas. This has caused permeability to become slow and drainage and aeration to be poor, which makes the soil unfavorable, at present, for growing row crops.

Use and management.—This soil is in management group III–2. Because of its poor condition, it is better suited to rice than to other crops. Most of it is used to grow rice, which produces moderate to good yields. Some small areas are used to grow sugarcane, and some are used for pasture or as woodland.

Open ditches and rows that run with the slope help to drain the surface water. In addition, aeration of the soil and the drainage of the subsoil need to be improved before planters can obtain good yields of corn and sugarcane. Additional practices to improve the soil so that profitable yields of row crops can be obtained consist of growing deep-rooted legumes for green manure and including improved pastures in the rotation if it is practical to do so.

Baldwin silty clay (Bf).—This imperfectly drained soil has a finer textured surface layer than Baldwin silty clay loam and occurs at lower elevations. It is one of the soils of the mixed lands. It generally occupies long narrow strips that run parallel to the ridges. The areas are level to nearly level and have slopes of less than 1 percent.

This soil occurs on the backslopes of the broader and higher natural levee ridges in the northwestern part of the parish, at elevations of 5 to 10 feet. It occurs at elevations of 4 to 6 feet on the narrower levee ridges in the eastern and northwestern parts of the parish. Many small to large areas occur in association with the higher lying Baldwin silt loam and Baldwin silty clay loam, as well as with areas of lower lying Alligator, Iberia, and Sharkey soils.

The surface layer, to depths of 5 to 10 inches, is very dark grayish-brown silty clay or clay containing moderate amounts of organic matter. It is medium acid to strongly acid.

The subsoil, between depths of 10 and 20 inches, is very dark gray clay, mottled with yellowish brown, and has a strong fine angular blocky structure. It is medium acid to neutral.

This soil has slow runoff and slow to very slow internal drainage. It receives a part of the runoff from large areas of soils that lie at higher elevations. When the soil is drained, permeability to air, roots, and moisture is good enough so that row crops can be grown profitably. Drainage is generally adequate for growing irrigated rice. The soil contains moderate amounts of organic matter and most plant nutrients. It can be tilled within only a narrow range of moisture content.

Included with this soil are areas in which the subsoil is mottled red, strong-brown, and yellowish-brown clay and the structure is strong very fine angular blocky. These areas occur in the northern part of the parish along the Bayou Teche course of the Red River and along former stream channels that carried Red River sediments. In these included areas the subsoil color and structure were influenced by the predominance of Red River sediments in the parent materials.

Use and management.—Baldwin silty clay is in management group III–2. It has been under cultivation for 75 to 100 years. If adequately drained it is well suited to row crops and to rice, pasture, and hay. In this parish it is one of the most important soils planted to sugarcane and corn, and yields are moderate to good. Some small areas are pastured or used as woodland.

More artificial drainage must be provided for this soil than for Baldwin silty clay loam, and yields are somewhat lower. The runoff from higher lying soils is drained across these soils through open ditches, and the soil is generally tilled with the slope to provide row drainage. Practices to improve crop yields include improvements in artificial drainage, such as the use of properly spaced lateral ditches of adequate size, as well as main ditches and quarter ditches. Green-manure crops should be turned under. Sugarcane and corn respond to nitrogen. On some areas yields have improved after a complete fertilizer has been applied.

Baldwin silty clay, compacted phase (Bg).—This nearly level soil resembles Baldwin silty clay but is compacted and massive as the result of having been used to grow irrigated rice for a number of years. The soil has been flooded frequently by irrigation water, and farm machinery has been used on the wet fields. This has destroyed the strong angular blocky structure of the subsoil and has caused the surface layer and subsoil to become compacted, massive, and very slowly permeable. Most of the areas are small to moderate in size. They occur in long strips that run parallel to the levee ridges.

This is one of the soils of the mixed lands. It occupies slopes of less than 1 percent on the backslopes of the natural levee ridges. In the northwestern part of the parish, medium-sized areas of this soil occur at elevations of 8 to 12 feet. These areas lie between areas of Baldwin silty clay loam, compacted phase, which occur at slightly higher elevations, and areas of Iberia clay, compacted phase, which occur at slightly lower elevations. In the north-central part of the parish, the soil occurs at elevations of 6 to 7 feet. It occupies the ridge crests above areas of Alligator soils. In the northeastern part of the parish, the soil occurs at elevations of 5 to 6 feet and lies between areas of higher lying Baldwin silt loam, compacted phase, and lower lying Alligator soils.

The thin surface layer consists of 5 to 6 inches of very dark grayish-brown clay or silty clay. It has a moderate fine granular structure and is slightly acid.

The subsoil, between depths of 5 and 24 inches, is mottled gray, very dark gray, and brown, compact, massive, plastic clay that is medium acid to neutral.

At depths below 24 inches, the substratum is grayish-brown, massive, plastic silty clay, mottled with brown and yellowish brown. It is neutral to moderately alkaline.

Drainage is imperfect to poor. The surface runoff is slow, and internal drainage is very slow. The water table is moderately high, usually at depths of less than 2 feet. The soil contains moderate amounts of organic matter and is fairly well supplied with plant nutrients. Permeability is unfavorable for row crops if methods to improve drainage are not used intensively.

Use and management.—This soil is in management group III–2. It is well suited to rice, pasture, and hay. Most of it is used to grow irrigated rice, and yields are moderate to good. Small areas are used as woodland or to grow sugarcane, but the yields of sugarcane are generally low.

Management practices are needed to improve tilth, structure, and permeability if the soil is to be used for sugarcane and corn. These consist of constructing and maintaining complete drainage systems; planting deep-rooted winter and summer legume crops for 1 or 2 years and turning them under for green manure; and including improved pasture in the crop rotation.

Brackish Marsh, Clays and Mucky Clays

Brackish marsh, clays and mucky clays (Af).—This mapping unit extends along the coastline of West Cote Blanche, East Cote Blanche, and Atchafalaya Bays from Little Bay to Wax Lake Pass. The area is about one-quarter of a mile to more than 3 miles wide. It consists of alluvial silts and clays that have been reworked by waves and tides and deposited at elevations of as much as 6 to 8 inches above the organic marsh soils, which they border on the northern or landward side. The areas are level and are frequently flooded to depths of 2 to 6 inches by normal tides and by the occasional high tides that rise to heights of 6 feet. The water table is at the surface.

The vegetation consists mainly of a thick growth of plants that tolerate brackish water, but there are a few kinds that grow in water that is nearly fresh. The common plants are saltmarshgrass, black rush, couchgrass, oystergrass (*Spartina alterniflora*), sawgrass (*Mariscus jamaicensis*), sea-oxeye, and cattail.

Profile of a clay soil in this mapping unit:

0 to 12 inches, gray plastic sticky clay; water table at the surface; a few brown splotches around root channels; weak granular to massive; many roots of couchgrass and saltgrass; mildly alkaline.

12 to 44 inches, gray plastic sticky clay; a few brownish-yellow and yellowish-brown mottles; contains lenses of gray silt loam, 2 to 4 inches thick; weak medium subangular blocky; moderately alkaline.

The surface layer in places is very dark gray or very dark grayish brown clay or mucky clay. In places the underlying material is gray clay to depths of 9 feet.

The reaction is neutral to moderately alkaline. Water is on or near the surface much of the time, so there is little or no surface runoff or internal drainage.

Use and management.—This mapping unit is in management group VIII–1. It is used mainly for trapping and hunting. In a few places it provides good seasonal grazing.

Brackish Marsh, Muck

Brackish marsh, muck (Bn).—The largest area of Brackish marsh, muck, is west of Wax Lake, where it is associated with Brackish marsh, peat. It lies along West Cote Blanche Bay between Cypremort Point and Cote Blanche Island and around Hackberry and Mud Lakes. One large area lies between an area of Brackish marsh, clays and mucky clays, and Brackish marsh, peat. Some areas occur along Horseshoe and Leopard Bayous and along Bayou Blue. Most of this organic soil is nearer the gulf than the areas of Brackish marsh, peat. It consists of a variable mixture of organic and mineral soil materials.

The predominant plants and the heights to which they grow are leafy three-square, 24 inches; three-square, 36 inches; couchgrass, 24 inches; delta potato, 36 inches; sawgrass, 48 inches; cutgrass, 48 inches; and cattail (*Typha domingensis*), 96 inches.

Typical profile:

0 to 8 inches, matted roots and remains of plants of the present marsh vegetation, with a black, finely divided muck matrix; strongly acid.

8 to 36 inches, black, finely divided muck and some coarse and fine fibrous peat; fine granular structure when dry; medium acid; 20.2 percent organic matter.

36 to 60 inches, gray plastic clay; massive; strongly acid; 3.7 percent organic matter.

In color the muck ranges from black to very dark brown. Its thickness ranges from 2 to 10 feet, although generally it is between 3 and 4 feet thick. In reaction it ranges from extremely acid to medium acid. The underlying clay ranges from gray to dark gray in color and in places contains lenses of black peat or muck. It is extremely acid to slightly acid.

Use and management.—This mapping unit is in management group VIII–1. It is used principally for hunting and trapping. A small part is firm enough to support the weight of cattle and is used for seasonal grazing. Management practices needed to keep the areas suitable for trapping are to provide suitable water so that food will grow for wildlife and to protect the areas from floods that would destroy wildlife.

Brackish Marsh, Peat

Brackish marsh, peat (Bo).—This organic soil occupies large areas in the western part of the coastal marshes west of Bayou Sale ridge. It is covered by water much of the time. The areas extend westward to the Iberia Parish line. They are bordered on the north by the fringe of swamp that lies next to the natural levee of Bayou Teche. On the south they are bordered by areas of muck that extend from Little Bay southeastward. To some extent, Marsh Island protects the areas in the western part of the parish from the saline waters of the gulf. A profile of this organic soil is shown in figure 4.

The vegetation consists of some plants that grow in water that is nearly fresh and of some that tolerate brackish water. The plants that tolerate brackish water grow

in pure stands on large areas, and those common to nearly fresh water are on small areas. The plants that tolerate brackish water and the heights to which they grow are couchgrass, 14 to 24 inches; big cordgrass, 4 to 6 feet; switchgrass, 4 feet; and three-square, 3 feet. Wild cowpeas also grow in brackish water. Fresh- and nearly fresh-water plants mixed with the brackish-water vegetation include cutgrass, 3 to 5 feet tall; sawgrass, 3 feet tall; cattail, 8 feet tall; and delta potato, 3 to 4 feet tall.

Typical profile:

0 to 4 inches, black muck matrix containing matted coarse- to medium-textured fibers, the remains of vegetation of the kind now growing.

4 to 72 inches, reddish-brown to dark reddish-brown, coarse- to medium-textured fibrous peat; moderately laminated to strongly laminated structure; medium acid; 76.3 percent organic matter.

72 to 108 inches, gray plastic clay containing thin lenses of very dark-gray clay; massive; medium acid; 10.4 percent organic matter and 0.90 percent sodium chloride.

The peat ranges in color from black to reddish brown and very dark brown. It is coarse to fine, fibrous, and felty. In thickness, it ranges from 2 to more than 11 feet; it averages 4 feet in thickness. The surface is covered in places by 2 to 6 inches of muck or mucky peat. In large areas cypress logs and stumps are buried beneath 18 to 30 inches of peat. Reaction ranges from strongly acid to neutral in the peat and from very strongly acid to mildly alkaline in the clay.

Use and management.—This organic soil is in management group VIII–1. Some of it is used for trapping. Parts that are firm enough to support the weight of cattle are used for seasonal grazing. Good practices are to manage the water and plant species so as to insure food and habitats for wildlife.

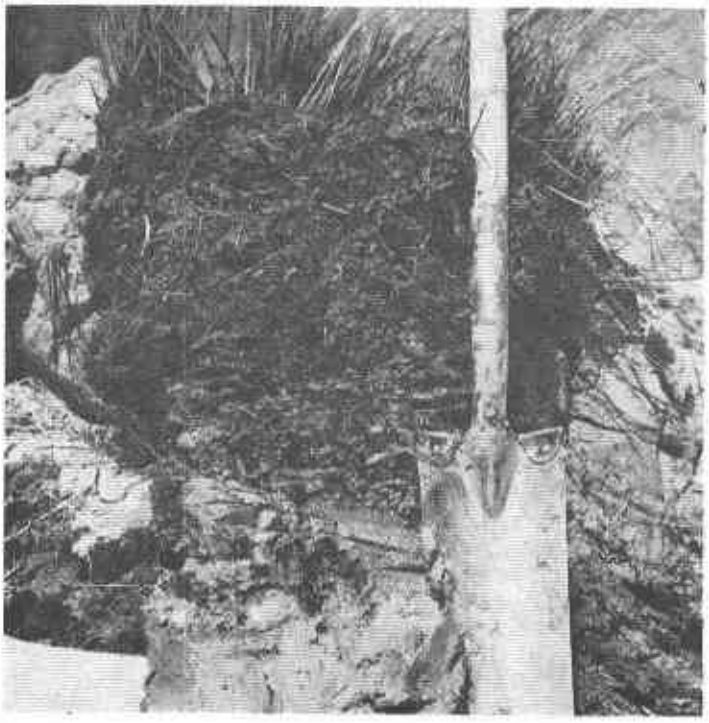

***Figure 4.*—Profile of Brackish marsh, peat, observed west of the ridge of Bayou Cypremort and south of the Intracoastal Waterway. The vegetation is couchgrass.**

Buxin-Portland-Perry Soils

The soils of the Buxin, Portland, and Perry series are intermingled and occur in areas of irregular shape that are too small to be separated at the scale of mapping used. As a result, the soils are mapped together as a complex. The Buxin soils are the most extensive in the complex, and the Perry the least extensive.

The soils of this complex occur on bottom lands. They are made up of reddish alluvium from the Red River, interbedded with gray and brownish-gray alluvium deposited by the Mississippi River. The soil profiles reflect the colors of the parent materials. In the profile the layers of sediments vary in sequence and in thickness, texture, and color.

The largest area of these soils occupies the delta of the Atchafalaya River in the northwestern part of the parish. Other large areas occur along the stream channels and along traces of former channels of the Teche-Mississippi River system. Here, the soils were derived mainly from Red River alluvium deposited when the Red River occupied the channel of Bayou Teche, which was also a former channel of the Mississippi River. The soils also occur on the low natural levee ridges that lie within the higher and broader natural levees of Bayou Teche. The terrace soils of the higher and broader natural levee ridges have developed mainly from sediments of the Mississippi River.

Some areas are nearly level to gently sloping. They have a general slope toward the adjacent stream channels. These narrow areas, well above the parts that normally are overflowed, are located along Bayou Teche, along Bayou Boeuf from Morgan City to Amelia, and along the Lower Atchafalaya River from Patterson to Berwick Bay. The elevation ranges from 3 to 15 feet.

Other areas of Buxin-Portland-Perry soils occur at elevations of less than 5 feet above sea level and are subject to frequent overflow. These parts include the delta of the Atchafalaya River and smaller areas along Bayous Boeuf, Shaffer, and Chene, the Lower Atchafalaya River, Wax Lake outlet channel, and Berwick Bay.

In this soil complex, the Buxin soils occupy low ridges along small old channels that are now indistinct and occur in areas along foot slopes; the Portland soils are on undulating slopes at lower elevations; and the Perry soils occupy old channels and depressions.

The vegetation on the higher areas consists of live oak, red oak, white oak, water oak, sweetgum, and hackberry trees. On the lower areas are bay, swamp maple, myrtle, cypress, and tupelo-gum. The areas of the Atchafalaya River delta that have been built up most recently are covered by a dense stand of willow trees that range from 2 to 4 inches in diameter and from 60 to 80 feet in height. Older areas of the delta have a thick stand of cypress and tupelo-gum.

Buxin-Portland-Perry soils, gently sloping phases (Bp).—These soils occur as narrow areas in the northern part of the parish. They lie along the entire course of Bayou Teche. They occupy areas between the crest of the natural levee and the stream channel and are on slopes that face the bayou. Relief is undulating to gently sloping, and the slopes range from 2 to 5 percent. These soils are well above areas that normally overflow.

The crop rows are commonly tilled with the slope, so these soils have been damaged by moderate to severe

erosion. Some plant nutrients have been lost through erosion.

The soil layers vary in texture, so they also vary in permeability and in drainage. Most areas are moderately well drained to imperfectly drained. Surface runoff is medium to rapid, and internal drainage is slow. The moisture-holding capacity is moderate to good. Most of the time there is enough moisture for crops. Most areas have good tilth under a moderate range of moisture content.

Typical profile of Buxin silty clay:

0 to 5 inches, dark-brown slightly plastic silty clay; strong fine granular; neutral.
5 to 12 inches, brown slightly plastic silty clay; moderate fine angular blocky; neutral.
12 to 18 inches, reddish-brown plastic clay mottled dark brown; strong fine angular blocky; mildly alkaline.
18 to 22 inches, reddish-brown and gray slightly plastic silty clay loam or silty clay mottled with dark brown; moderate fine angular blocky; moderately alkaline.
22 to 28 inches, dark-brown friable silt loam or very fine sandy loam; mildly alkaline.
28 to 32 inches, mottled dark reddish-brown, dark reddish-gray, and dark-brown plastic clay; moderate fine angular blocky; mildly alkaline.
32 to 40 inches, reddish-brown plastic clay mottled with gray and grayish brown; strong fine angular blocky; moderately alkaline.

The surface layer ranges in texture from clay to very fine sandy loam and in reaction from neutral to medium acid. The other layers vary in color, thickness, and texture, and the sequence of the layers varies.

Drainage is moderately good in this soil, and the water-holding capacity is favorable for plants. Permeability is moderate.

Typical profile of Portland silt loam:

0 to 8 inches, light-brown friable silt loam; moderate fine granular; slightly acid.
8 to 14 inches, reddish-brown plastic silty clay; strong fine angular blocky; slightly acid.
14 to 22 inches, dark-brown plastic silty clay; strong fine angular blocky; neutral.
22 to 28 inches, dark-brown plastic silty clay; moderate medium angular blocky; neutral.
28 to 40 inches, mottled reddish-brown, pinkish-gray, and brown plastic clay; moderate medium angular blocky; mildly alkaline.

The surface layer ranges from light brown to grayish brown in color and from silt loam to silty clay in texture. In many places the substratum contains much gray mottling.

These soils are imperfectly drained. Surface runoff is medium to slow, and internal drainage is slow.

Typical profile of Perry clay:

0 to 14 inches, dark-gray plastic clay or silty clay; strong fine granular; slightly acid.
14 to 20 inches, mottled dark-gray, gray, and very dark grayish-brown plastic clay; massive; medium acid.
20 to 30 inches, mottled gray and dark-gray plastic silty clay or clay; a few prominent mottles of reddish gray and reddish brown; massive to weak fine angular blocky; neutral.
30 to 40 inches, gray plastic clay mottled with very dark grayish brown; massive; mildly alkaline.

The surface soil ranges in color from dark gray to gray and in reaction from slightly acid to medium acid. The substratum ranges from medium acid to mildly alkaline. This soil is poorly drained. Surface runoff is slow, and internal drainage is very slow. This soil type occurs in small areas and does not influence the use and management of the soil complex.

Use and management.—This mapping unit is in management group III–1. All of it is used to grow sugarcane and corn, and yields are moderate to good. The soils are well suited to pasture and hay but are not suited to rice. Surface drainage is adequate. Therefore, these soils are highly favored by planters. Erosion, however, has caused considerable damage.

Nitrogen fertilizers are commonly applied to sugarcane and corn. Improved yields result from the use of such management practices as (1) tilling across the slope but allowing enough slope for adequate row drainage, (2) turning under green-manure crops as often as feasible, and (3) applying more nitrogen and complete fertilizer to the crops.

Buxin-Portland-Perry soils, nearly level phases (Bs).—This mapping unit lies along Bayou Teche between the crest of the natural levee and the stream channel. The soils occur in association with the Buxin-Portland-Perry soils, gently sloping phases. They are level to nearly level but are well above areas that normally overflow. The slopes are less than 3 percent, and erosion is not a serious problem. The elevation ranges from stream level, or 3 to 5 feet, to as much as 15 feet above sea level. Most areas are slightly lower than the areas occupied by the associated Cypremort and Baldwin soils.

Use and management.—This mapping unit is in management group II–1. Most areas are used to grow sugarcane and corn, but small areas are covered by trees or are pastured. The soils are well suited to continuous agriculture. Management practices and yields are similar to those for Buxin-Portland-Perry soils, gently sloping phases.

Buxin-Portland-Perry soils, level overflow phases (Br).—The soils of this mapping unit are frequently flooded. The largest area is on the delta of the Atchafalaya River in the northwestern part of the parish. Much of this delta has been built up in Grand Lake during the past 15 years, and in places it is about 6 feet high. The soils of the delta contain considerably more strata of fine sand and very fine sand than the soils of the high bottom lands.

Other areas of these soils occur along Bayous Shaffer and Chene and along the Lower Atchafalaya River and Berwick Bay. The mud flat areas of these soils are composed of mixed silt and clay sediments. Mud flats are common along the outlet channel of Wax Lake and along the Lower Atchafalaya River. In the Atchafalaya River delta area, consisting of many streams and islands, the smaller islands and the borders of the larger islands are made up of stratified silt loams and very fine sandy loams. The broad flat interiors of the larger islands consist of mixed silt and clay sediments.

In places the relief is undulating and hummocky. Most of the areas composed of clay and silty clay are at elevations of up to 3 feet. Those composed of silt loam and fine sandy loam are at elevations of 5 or 6 feet.

Areas made up of more recent delta deposits have a dense cover of small willow trees. Those consisting of older sediments are covered with cypress, tupelo-gum, and cottonwood.

Included in this mapping unit are areas of Yahola soils, which are not mapped separately in this parish.

Use and management.—This mapping unit is in management group V–2. The soils are not suitable for crops

because they are frequently flooded. They are used for forest, seasonal grazing, hunting, and fishing.

Cypremort Series

The soils of the Cypremort series have developed from older Mississippi River alluvium mixed with some alluvium of the Red River. They are made up of stratified silts and sands that have been deposited near the stream channels during floods.

The Cypremort soils occupy front lands on the crests of the natural levee ridges of Bayous Teche, Cypremort, and Sale and smaller streams. Long narrow ridges of these soils, extending from the bayous to the back lands, swamps, and marshes, were once channels of former crevasses and distributaries that have been filled with alluvial deposits.

Most of the areas are nearly level to undulating and are on slopes of less than 1 percent. A few areas along Bayous Cypremort and Sale are on slopes of 2 to 5 percent. The Cypremort soils occupy slightly higher positions than the associated Baldwin silt loams and Baldwin very fine sandy loam.

The native vegetation consisted of prairie grasses and, on small scattered areas, hardwoods such as white oak, sweetgum, live oak, and hackberry.

These soils have been in place long enough to have developed profiles. They differ from the Baldwin soils in having a brown instead of a very dark grayish-brown surface layer and a silty clay loam instead of a clay subsoil.

The soils are moderately well drained and have been moderately leached of bases. Tilth is good, and the soils can be tilled over a wide range of moisture content. The moisture-holding capacity, in most places, is adequate for the growing of row crops. The soils are too permeable for irrigated rice.

The Cypremort soils are moderate to low in content of organic matter. They are lower in plant nutrients than the Baldwin and Iberia soils. Nevertheless, they are moderately fertile and are suited to continuous cropping. Most areas have been planted to row crops for more than a hundred years.

Cypremort very fine sandy loam (Cc).—This is a moderately well drained, nearly level soil of the low Mississippi River terraces. It commonly occupies small areas of front lands on the crests of the natural levee ridges. The areas are generally long, irregular in shape, and run parallel to the stream channels. The largest areas are in the northwestern part of the parish. They occur on the widest and highest parts of the natural levee ridge of Bayou Teche at elevations of 5 to 16 feet. In the southern and southwestern parts of the parish, the soil occurs at marsh level and at elevations of about 5 feet. Most areas occur at higher elevations than the associated Baldwin soils and the Buxin-Portland-Perry soils of the high bottoms.

Most areas of this soil occupy slopes of less than 1 percent. A few small areas near Bayous Sale and Cypremort are undulating and occupy slopes of 2 to 5 percent.

Typical profile:

0 to 5 inches, pale-brown friable very fine sandy loam; weak fine granular; slightly acid.
5 to 10 inches, light brownish-gray, compact, dense very fine sandy loam (plowsole layer) mottled gray and yellowish brown; weak platy to massive; slightly acid.
10 to 24 inches, brown friable silty clay loam or fine sandy clay loam mottled with brownish yellow and gray; weak coarse angular blocky; slightly acid to mildly alkaline.
24 to 42 inches, mottled gray, yellowish-brown, and brownish-yellow friable silty clay loam or very fine sandy loam; slightly acid to mildly alkaline.

The combined surface and subsurface layers range in thickness from 8 to 12 inches. In reaction they range from medium acid to slightly acid. The plowsole layer ranges from 4 to 8 inches in thickness. In many places it occurs in both the lower surface layer and in the upper part of the subsoil. In many places the structure of the subsoil is moderate coarse angular blocky.

Surface runoff and internal drainage are medium in this soil. The water table is low, and permeability to moisture and air is good. Crops are rarely damaged by drought. The soil contains low to moderate amounts of organic matter and plant nutrients.

Use and management.—This soil is in management group I–1. It is one of the best soils in the parish for row crops. All of the areas have been cultivated, and most have been used for sugarcane and corn for more than a hundred years. The soil is well suited to pasture and hay.

Larger amounts of complete fertilizer are needed on this soil than on the Baldwin and Iberia soils. Legume crops should be grown as often as feasible in the rotation and turned under as green manure.

Cypremort silt loam (Ca).—Except for the texture of the surface layer, this soil resembles Cypremort very fine sandy loam. It has the same degree of slope, occurs at the same elevations, and is associated with the same soils. The areas are small. They occur throughout the parish on natural levee ridges.

Use and management.—This soil is in management group I–1. It is an excellent soil for row crops, but it is also well suited to pasture and hay. It is not suited to rice. All of the areas are used for row crops or soybeans. The yields of sugarcane, corn, soybeans, and truck crops are high. The soil needs complete fertilizer for high yields, and green-manure crops should be plowed under whenever feasible.

Cypremort silty clay loam, eroded phase (Cb).—This soil differs from Cypremort silt loam in the texture of the surface layer and in slope. Also, because the soil has commonly been tilled with the slope, much of its surface layer has been lost through erosion. In the typical soil the combined surface soil and subsurface layer are only 4 to 6 inches thick, as compared with 10 to 12 inches in the nearly level areas of Cypremort silt loam. Most areas have a thin very slowly permeable plowsole layer in the lower part of the surface layer and in the upper part of the subsoil.

This soil occurs on slopes of 2 to 5 percent. Small isolated areas in the northern and western parts of the parish occur at elevations of 5 to 8 feet. They are associated with Baldwin silt loam and Baldwin silty clay loam. Long, narrow areas lie parallel to Bayou Sale in the southern and south-central parts of the parish.

Runoff from this soil is medium to rapid, and internal drainage is medium. The soil can be tilled over a moderate range of moisture content. The moisture-holding capacity is moderately good, but crops may be damaged by drought during extended dry spells. The soil is slightly acid to medium acid.

Use and management.—This soil is in management group III–1. It is well suited to row crops, pasture, and hay.

Most of it is used to grow sugarcane and corn. Areas in woodland have been retired from cultivation or have never been cultivated because they were too small and irregular or because they were not accessible.

Management practices to increase or maintain the yields of row crops consist of tilling across the slope but allowing enough slope for adequate drainage but a minimum of erosion, applying complete fertilizer, and plowing under green-manure crops.

Drained Marsh, Clays

Drained marsh, clays (Ad).—This mapping unit occurs at elevations 2 to 3 feet above sea level. It is associated with the swamp soils, on the lower elevations, and with the Alligator and Iberia soils and Baldwin silt loam, salty variant, which occur at slightly higher elevations.

Unlike the Alligator soils, Drained marsh, clays, has a very dark-gray, very dark-brown, or black surface layer. Like Iberia clay, compacted, thin solum phase, its surface layer immediately overlies a layer of gray massive clay, but its surface layer differs from that of the Iberia soil in containing considerable amounts of undecomposed or partly decomposed peaty materials. The native vegetation consisted of fresh-water marsh plants.

Typical profile:

0 to 5 inches, very dark-brown mucky clay containing much partially decomposed organic material; yellowish-brown mottles along root channels; moderate fine granular; strongly acid.

5 to 16 inches, gray plastic clay mottled with dark gray; large yellowish-brown mottles along roots and next to partly decomposed plant materials; massive; medium acid.

16 to 30 inches, gray plastic clay with yellowish-brown and yellowish-red mottles around roots and around former root channels; thin lenses of partly decomposed fibrous organic materials; massive; slightly acid.

30 to 42 inches, gray plastic clay mottled with dark grayish brown and yellowish red; massive; medium acid.

The surface layer ranges from strongly acid to slightly acid, and the clay layer immediately below ranges from medium acid to slightly acid. Surface runoff and internal drainage are very slow.

Use and management.—This mapping unit is in management group V–1. It has been protected from overflow by dikes, and pumps have been used to drain off the excess water. Most of the areas have been used to grow rice and sugarcane. Some of the drainage and flood-protection structures have been abandoned. Most of the soil is now idle or in forest, but small areas are used for crops. Yields of rice are good. The soil is well suited to pasture and hay.

By using artificial drainage, protecting the areas by dikes, using pumps to remove the excess water, and growing crops that will improve the structure, the soil can be made suitable for sugarcane and corn. Its use for row crops is governed by the cost of draining it as compared to the income that can be expected from the crops that are grown.

Fresh Water Marsh, Clays and Mucky Clays

Fresh water marsh, clays and mucky clays (Ae).—This mapping unit occurs mainly in one large area. It extends from Wax Lake on the west to the eastern boundary of the parish and almost continuously from the Intracoastal Waterway on the north, southward to the coastline. Along the coast the marsh clays extend from Wax Lake Pass to the mouth of the Lower Atchafalaya River. The area is frequently flooded by fresh water from the Atchafalaya Basin. The fresh water is carried into and through the marshland by the Wax Lake outlet channel, by the lower Atchafalaya River, and by Bayous Shaffer and Chene. The water and its sediments are distributed throughout the area by many bayous and canals.

Except for the natural levees, which in places rise to 1 or 2 feet above the marshlands, the area is low and level. Some of it is flooded by salt water when tides are high. The salt water is removed quickly, however, by floods of fresh water received during periods of high rainfall.

The soil materials consist of alluvial silty clays and clays. In this part of the parish there is an accumulation of sediments from both the Red and Mississippi Rivers. The brown alluvium, which forms a mantle over this soil in many places, is of Red River origin. The brown and gray silty clays, clays, and mucky clays in these places are underlain at depths of 12 to 24 inches by gray massive clays.

The marsh vegetation common to this soil consists of fresh-water species or of plants typical of water that contains little salt. The predominant species and the heights to which they grow are common reed, 10 or 12 feet; paille finne, 4 or 5 feet; cattail, 8 feet; delta potato, 3 feet; bulrush, 5 to 6 feet; cutgrass, 3 to 4 feet; and switchgrass, 4 feet.

Profile of a mucky clay soil in this mapping unit:

0 to 12 inches, mat of coarse plant residues of the present vegetation with a matrix of dark-gray clay or silty clay; slightly acid.

12 to 20 inches, dark grayish-brown mucky silty clay containing medium and fine fibrous partly decomposed parts of plants; plastic when wet, hard and firm when dry; massive; slightly acid; contains 9.3 percent organic matter and 0.03 percent sodium chloride.

20 to 36 inches, dark-gray mucky clay; plastic and sticky when wet, hard when dry; massive; slightly acid; contains 7.8 percent organic matter.

36 to 108 inches, gray clay; massive; plastic; strongly acid.

The surface layer ranges from gray to dark gray or brown. It ranges from clay to mucky clay or mucky silty clay in texture. In places a thin 2- to 4-inch layer of muck occurs on the surface. In a few places the mucky clay surface layer is 4 feet thick over gray clay. The profile ranges from very strongly acid to mildly alkaline.

Use and management.—This mapping unit is in management group VII–1. Because of overflow and inaccessibility, it is used primarily for hunting and trapping. A few areas are used for seasonal grazing. If protected by levees, and if pumps are used to remove excess water, the land would be suitable for cultivated crops. Because of the occasional tides, which rise to heights of 6 feet, it is not practical to reclaim the land for agricultural uses at the present time.

Iberia Series

The soils of the Iberia series occupy low stream terraces. They have developed from old alluvium deposited by the Mississippi River and its distributaries during the late Pleistocene or early Recent epoch.

The parent materials of these soils consisted of alkaline slack-water clays, underlain at shallow depths by more friable alkaline to calcareous strata. When streams

overflowed, the fine-textured sediments were carried across the higher parts of the natural levee ridges and were deposited in the shallow lakes and embayments that were on the other side of the ridges or that extended into them. A thick cover of marsh and swamp vegetation grew in the shallow lakes and embayments. As the plants died and decayed and alluvium was deposited, the areas were built up to elevations that were above the level of the marshes and swamps. The organic matter from the vegetation made the soils dark colored.

The surface layer of most of the Iberia soils is very dark gray or black and is slightly acid to neutral. In contrast, the surface layer of the Baldwin soils is grayish brown or very dark grayish brown and is slightly acid to medium acid. The Iberia soils are not so well drained as the Baldwin soils. They are darker colored than the Alligator soils and are older than the Alligator and Sharkey soils, which are made up of recent alluvium. The Iberia soils occur at slightly lower elevations than the associated Cypremort and Baldwin soils and at higher elevations than the Alligator and swamp soils.

Iberia silt loam (Ie).—This soil is one of the best agricultural soils of the back lands. Some of it occupies nearly level areas along the highest parts of the backslope of the natural levee ridges in the southwestern and northwestern parts of the parish. Here, it lies at elevations of 4 to 10 feet and is associated with the Baldwin soils and with the finer textured Iberia soils. This soil also occurs in the western part of the parish at elevations of 3 to 5 feet. These areas occur in association with Iberia clay and with the Patoutville soils.

The native vegetation consisted of mixed marsh plants and trees that grow in swamps.

Typical profile:

0 to 8 inches, very dark-gray friable silt loam; moderate fine granular; slightly acid.
8 to 10 inches, very dark-gray compact clay mottled with yellowish brown and dark grayish brown; moderate medium platy; neutral.
10 to 26 inches, grayish-brown plastic clay mottled with gray and yellowish brown; strong fine and medium angular blocky; mildly alkaline.
26 to 42 inches, grayish-brown slightly sticky silty clay or silty clay loam mottled gray, yellowish brown, and pale brown; weak medium angular blocky; few large, soft lime concretions; few small, brown and black concretions; moderately alkaline.

The color of the surface layer ranges from dark gray to black. A plowsole occurs in many places in the subsurface layer and in the upper part of the subsoil. The substratum ranges in texture from silty clay to silt loam.

This soil is high in organic matter and in most plant nutrients. It is imperfectly drained to poorly drained and has a moderately high water table. Runoff is slow, and internal drainage is slow to very slow.

Use and management.—This soil is in management group II–3. It has been cultivated for from 50 to 100 years. The usual crops have been sugarcane, corn, and soybeans.

The soil is well suited to rice and pasture and is also suited to hay. If properly drained it produces moderate yields of row crops. The surface layer dries out rapidly, and the soil can be tilled soon after heavy rains. Most areas occur at high enough elevations and have enough slope for surface water to run off if the rows are run in the right direction and lateral ditches are spaced properly. The runoff from the higher lying areas is effectively carried off by the lateral ditches. Floodwaters used for rice are removed by gravity drainage.

In addition to drainage, the soil needs nitrogen and complete fertilizer. Nitrogen and small amounts of mixed fertilizer are generally used for all field crops. The soil also needs occasional deep plowing to break the plowsole.

Iberia silty clay loam (If).—This important agricultural soil occupies small- to medium-sized areas mostly in the southwestern, western, northwestern, and central parts of the parish. It occurs on the higher parts of the back lands at elevations of 3 to 8 feet. This soil is associated with Iberia clay and with the Alligator and swamp soils, which all occur at slightly lower elevations. It occurs at lower elevations than the associated Cypremort and Baldwin soils and Iberia silt loam. Relief is nearly level, and slopes are less than 1 percent. A profile of this soil is shown in (fig. 5).

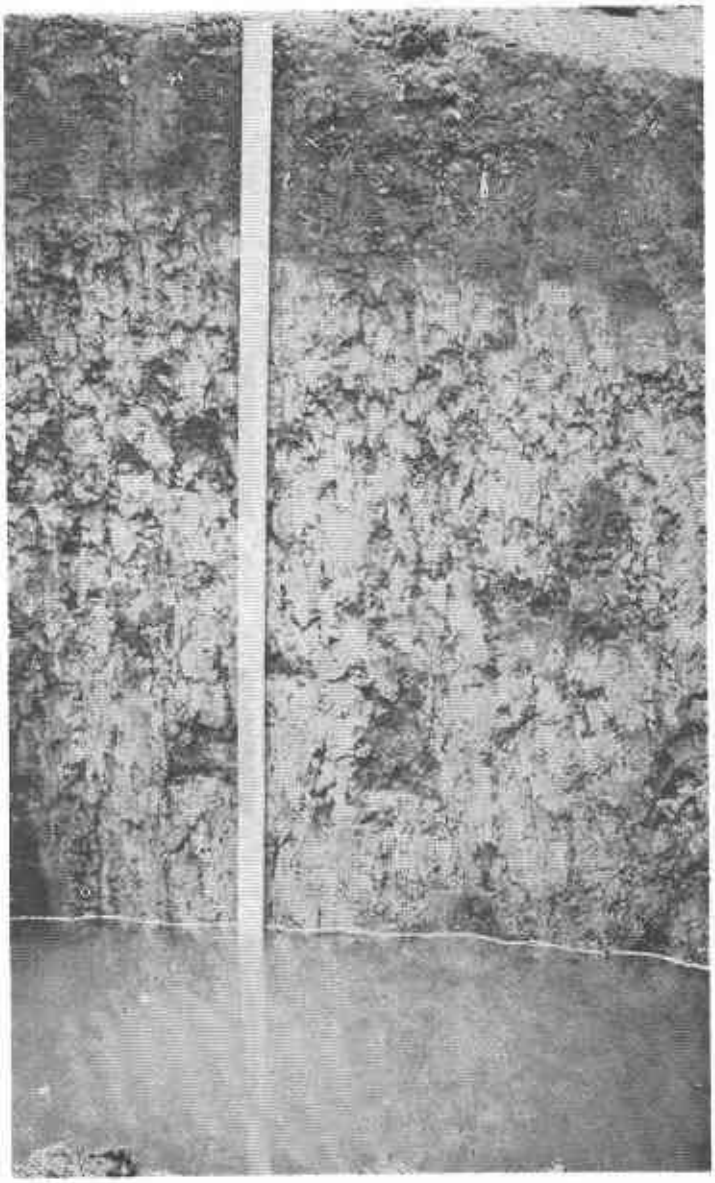

Figure 5.—**Profile of Iberia silty clay loam observed at the Katy plantation in the northwestern part of the parish.**

Typical profile:

0 to 4 inches, very dark-gray silty clay loam; slightly hard when dry, friable when slightly moist; moderate fine granular; many roots; very slightly acid.
4 to 12 inches, very dark-gray silty clay loam (plowsole layer); massive to weak thick platy; many roots; neutral.
12 to 16 inches, black silty clay or clay; slightly plastic and sticky when wet; moderate to strong fine angular blocky; many roots and a few small concretions; neutral.
16 to 26 inches, black clay; plastic when wet; strong fine angular blocky; a few roots and a few small, round, brown concretions; neutral.
26 to 40 inches, mottled gray and light brownish-gray silty clay; a few large, prominent mottles of brownish yellow and tongues of black soil material; slightly plastic when wet; massive; mildly alkaline.

The surface layer ranges from very dark brown to black. The texture of the substratum ranges from silty clay to silty clay loam.

This soil is poorly drained. It has slow surface runoff and slow to very slow internal drainage. The water table is generally at depths of 16 to 18 inches. The soil can be tilled over a moderate range of moisture content because it dries out soon after rains. It contains moderate amounts of organic matter and is generally high in most plant nutrients.

Included with this soil are small- to medium-sized forested areas that have a strong fine granular structure in the subsurface layer instead of massive or platy. Some of these areas occur southwest of the Cypremort sugar mill, along the lower part of the natural levee of Bayou Cypremort and along the western border of the parish. The areas occur at elevations of 3 to 4 feet and are associated with the lower lying swamp soils and with the higher lying Baldwin soils.

Use and management.—This soil is in management group II–3. Except for the low-lying forested areas, it is used to grow sugarcane and corn. It is also well suited to pasture, hay, and rice. If it is adequately drained and properly fertilized, yields of crops are good.

Iberia silty clay loam, thin solum phase (Ig).—This nearly level soil of the back lands occurs on the backslopes of the natural levees. Small- to medium-sized areas occur in the western and northwestern parts of the parish at elevations of 3 to 10 feet above sea level. In the southwestern part, the soil occurs at elevations of 4 to 5 feet and is associated with other Iberia soils and with the Jeanerette soils.

The combined surface and subsurface layers in this soil consist of 4 to 7 inches of black or very dark-gray silty clay loam, as compared to 10 to 14 inches in Iberia silty clay loam. The soil occupies slopes of less than 1 percent.

Typical profile:

0 to 2 inches, very dark-gray silty clay loam; strong fine granular; slightly acid.
2 to 4 inches, very dark-gray, compact silty clay loam; massive to weak medium subangular blocky; slightly acid.
4 to 8 inches, very dark-gray, compact, plastic clay; many, medium, distinct mottles of pale brown; weak thick platy; mildly alkaline.
8 to 12 inches, grayish-brown plastic clay mottled with gray and dark gray; strong fine angular blocky; mildly alkaline.
12 to 30 inches, grayish-brown plastic and sticky clay mottled with dark gray; moderate to weak medium angular blocky; mildly alkaline.
30 to 40 inches, olive-gray silty clay loam mottled with dark gray and yellowish brown; massive; mildly alkaline.

The surface layer ranges in texture from silty clay loam to silt loam. In some places the subsurface layer is as much as 5 inches thick.

This poorly drained soil has slow runoff and very slow internal drainage. The rooting zone is restricted to the shallow surface soil and subsurface layer, as these are generally sufficiently drained for root development.

Use and management.—This soil is in management group II–3. It is an important agricultural soil. All of the areas are drained by lateral ditches, and rows are run with the fall of the land to provide drainage. Sugarcane and corn are grown, but the soil is also suited to rice, pasture, and hay. Yields are fair to good, depending to a great extent upon the drainage, the use of fertilizer, and upon other management practices. Better yields are obtained by using more effective methods to improve drainage, plowing under green-manure crops, and using complete fertilizer.

Iberia clay (Ia).—This important soil of the back lands occupies large level to nearly level areas on the lower backslopes of the natural levee ridges. Some of the areas lie next to swamps. This soil occurs at elevations of 2 to 6 feet. It is associated with swamp soils that occur at slightly lower elevations, and with the higher lying Iberia silty clay loam, Baldwin silty clay, and Baldwin silty clay loam.

Typical profile:

0 to 5 inches, very dark-brown firm clay or silty clay; strong fine granular; contains many roots; slightly acid.
5 to 10 inches, black plastic silty clay or clay (plowsole layer); massive to weak medium platy; contains many roots; neutral.
10 to 14 inches, black plastic clay; strong fine angular blocky; slightly alkaline.
14 to 26 inches, dark-gray plastic clay mottled with grayish brown and yellowish brown; strong fine angular blocky; mildly to moderately alkaline.
26 to 36 inches, mottled grayish-brown, brownish-gray, and yellowish-brown plastic clay; massive; moderately alkaline.
36 to 42 inches, mottled grayish-brown, gray, and yellowish-brown friable silty clay or silty clay loam; massive; mildly alkaline.

A few lime concretions commonly occur in the substratum of this soil. The massive or platy plowsole layer does not occur in a few small areas that are under forest and have never been cultivated.

This soil is poorly drained. Surface runoff is slow, and internal drainage is slow to very slow. The soil is fairly permeable to moisture, roots, and air. It can be tilled within only a narrow range of moisture content, and tilth is fair to poor. The soil contains considerable amounts of organic matter and plant nutrients.

Use and management.—This soil is in management group III–3. It is one of the important agricultural soils of the parish. Most areas are under cultivation, but a small part is used as woodland or pasture. The soil is generally used to grow sugarcane and corn, but it is also well suited to rice, pasture, and hay. Fair to good yields are obtained if the areas are artificially drained. Nitrogen is normally used for sugarcane and corn.

In many places the soil is not adequately drained because the open ditches are improperly constructed and maintained or because rows are not run with the natural fall of the land. In many places the ditches are too far apart for effective removal of the surface water and, as a result, the water remains in the middle of the rows for several days after rains. Low-lying areas, where surface

drainage is ineffective because of the height of the tides or floodwaters in adjoining areas, need to be protected by levees, and the excess water should be pumped out when the soil is used for row crops.

Management practices needed to increase yields consist of constructing and maintaining ditches of adequate size and proper spacing; running the rows with the natural fall of the land to provide row drainage; growing green-manure crops in the rotation whenever feasible; plowing deeply to break up the plowsole layer; and using larger amounts of fertilizer.

Iberia clay, thin solum phase (Id).—This soil occupies small- to medium-sized areas near other soils of the back lands; it is on the lower backslopes of the levees next to the swamps. This soil differs from Iberia clay in having only 5 to 7 inches of soil material over the subsoil instead of the 10 to 14 inches typical of Iberia clay. It occurs at elevations between 3 and 9 feet above sea level in the western, northwestern, and north-central parts of the parish. It occurs at lower elevations than the associated Jeanerette, Baldwin, and Cypremort soils and Iberia silt loam, and at higher elevations than the associated swamp soils. The areas are level to nearly level.

This soil is poorly drained. The water table stands at depths of 12 to 16 inches. Runoff and internal drainage are slow to very slow. Most areas are drained by ditches, and rows are run with the slope to provide row drainage. Nevertheless, the water generally drains off slowly. The rooting zone is restricted to the shallow upper layers, and the soil is therefore less desirable for row crops than Iberia clay. The soil is slightly acid to mildly alkaline.

Included with this soil are small- to medium-sized areas under forest. These occur at low elevations and are closely associated with the swamp soils. Drainage of these areas by gravity flow of the water is governed by the level of the floodwaters or tidal waters in the swamp areas.

Use and management.—Iberia clay, thin solum phase, is in management group III–3. Most of it is used to grow sugarcane and corn, and yields are fair to good. It is also suitable for rice and pasture. Increased yields are obtained by improving drainage, using larger amounts of complete fertilizer, and turning under green-manure crops. If used for row crops, the areas of included soils must be protected by levees, and pumps must be used to remove excess water.

Iberia clay, compacted phase (Ib).—This poorly drained soil of the back lands resembles Iberia clay except that it has a compact, puddled surface layer and subsoil. These have developed as the result of flooding the soil and using heavy farm machinery on the ricefields. The soil occurs on the lower backslopes of the natural levees next to the swamps. It occupies level or nearly level areas that occur at elevations of 4 to 8 feet. Associated with this soil are the higher lying Baldwin silty clay loam and Baldwin silty clay and the lower lying Iberia clay, thin solum phase, and the swamp soils.

Typical profile:

0 to 5 inches, very dark-brown plastic clay or silty clay that is yellowish red around roots; moderate fine granular; contains many rice roots; neutral.
5 to 12 inches, very dark-brown, slightly plastic, compact silty clay that is yellowish red around roots; massive; many rice roots; neutral.
12 to 18 inches, grayish-brown plastic and sticky clay mottled with dark gray; massive; mildly alkaline.
18 to 40 inches, dark grayish-brown plastic clay mottled with dark gray; massive; mildly alkaline.

The surface layer ranges from neutral to slightly acid. It is very dark gray, black, or very dark brown. At depths between 5 and 12 inches, the soil material ranges from very dark brown to black, from neutral to slightly acid, and from platy to massive. In places the substratum contains lime concretions.

Surface runoff is slow to very slow in this soil, and internal drainage is very slow. Because of the compacted clay surface soil and subsoil, permeability is slow. The water table is commonly high—at depths of 12 to 16 inches below the surface of the soil. Tilth is generally poor. The soil occurs at elevations high enough so that drainage by gravity is fair.

Use and management.—This soil is in management group III–3. It is well suited to rice, and yields are moderate to good. It is also well suited to pasture and hay. It does not have adequate artificial drainage for row crops to grow well. Some small fields have been drained and planted to sugarcane, however, and yields are fair.

Proper management practices are needed to improve the tilth, structure, and permeability of this soil so that sugarcane and corn can be grown profitably. These include constructing lateral and main ditches, which should be properly spaced; tilling with the slope to provide row drainage; and turning under deep-rooted legumes for green manure for 1 or 2 years. The legume should be followed by 2 or 3 years of improved pasture, where feasible, and then by a row crop.

Iberia clay, compacted, thin solum phase (Ic).—This poorly drained soil of the back lands occupies small- to medium-sized areas on the lower backslopes of the natural levees. The areas border swamps. The soil occurs in the western part of the parish at elevations of 3 to 5 feet. It is associated with the Alligator and swamp soils, which occur at lower elevations, and with Iberia silty clay loam and Iberia clay, which are at higher elevations.

This soil differs from Iberia clay, compacted phase, in having only 4 to 6 inches of very dark gray, black, or very dark-brown soil material overlying the subsoil instead of 10 to 14 inches. For many years the soil has been used to grow rice, and the surface layer and subsoil have become dense, compact, and puddled.

Use and management.—This soil is in management group III–3. It is well suited to rice, and most of it is used for that purpose. Sugarcane has been grown on a few small areas that have been drained, but yields are low. To use the soil profitably for row crops, planters must provide adequate drainage and improve the structure.

Jeanerette Series

The soils of the Jeanerette series occur on low terraces. They have developed from old alluvium deposited by the Mississippi River and its distributaries during the late Pleistocene or early Recent epoch. The parent materials were silt loams, silty clay loams, and very fine sandy loams that were deposited in the shallow rim lakes and embayments that bordered the natural levee ridges. These medium-textured parent materials consisted of alluvial wash from adjacent higher areas and deposits from former streams.

The soils of the Jeanerette series occur in the highest parts of the back lands. The largest areas are in the western part of the parish. Scattered small areas are located in the southwestern, northwestern, and central parts, and the total acreage is small.

The native vegetation consisted of a dense growth of marsh and swamp plants. As the remains of these plants accumulated and mixed with the sediments, the areas were built up to well above the areas that normally overflow. The soils that were formed are friable, dark colored, and moderate to high in organic matter. Most of the soils occur at elevations of 4 to 5 feet. They occupy slightly higher positions than the associated Iberia soils but lower positions than the associated Patoutville soils.

The Jeanerette soils range from moderately well drained to imperfectly drained. If the water table is kept at a low level by draining off the surface water, they are the best agricultural soils of the parish. The water table is generally lower than the water table underlying the Iberia soils.

The Jeanerette soils differ from the Iberia soils in having a subsoil of friable silty clay loam instead of plastic clay. They have a darker colored and more alkaline surface layer than the Patoutville and Baldwin soils.

Jeanerette silt loam (Ja).—This soil of the low Mississippi River terraces occupies a small acreage in the western part of the parish. The largest single area is 1½ miles southwest of the sugar mill at Albania. This soil occurs in association with Jeanerette silt loam, thin solum phase, and, in depressions, in association with the Patoutville soils. It lies at elevations of 4 to 5 feet.

Typical profile:

0 to 10 inches, very dark-brown friable silt loam; moderate fine granular; small lime concretions scattered on the surface; mildly alkaline.
10 to 15 inches, very dark-brown compact silt loam; moderate fine granular; moderately alkaline.
15 to 19 inches, very dark-brown compact silty clay loam; strong medium angular blocky; scattered, small, round, brown and black, hard concretions; moderately alkaline.
19 to 30 inches, pale-brown friable silt loam or silty clay loam mottled with gray; scattered, small, hard, brown and black concretions; moderately alkaline.
30 to 40 inches, light olive-yellow friable silt loam mottled with gray and brownish yellow; marly; about 50 percent of marly material is yellowish hard lime concretions, and 5 percent is brown and black concretions; moderately alkaline.

The reaction ranges from moderately alkaline to neutral in this soil. The texture of the subsoil ranges from silty clay to silty loam. A whitish efflorescence is commonly observed on the dry surface soil. Some areas do not have lime concretions on or in the surface layer.

This imperfectly drained soil is fairly high in organic matter and in most plant nutrients. It is permeable to roots, air, and water. The surface soil has good moisture-holding capacity. Tilth is good, and the soil can be tilled within a moderate range of moisture content. The subsoil is friable and moderately permeable; internal drainage is medium. The soil occupies level or nearly level areas. It receives runoff from higher areas. Drainage ditches, however, remove the surface water and keep the water table at about 20 to 24 inches below the surface of most areas.

Use and management.—This soil is in management group II–2. It is one of the most productive soils in the parish. All the areas are used for sugarcane or corn, and yields are good to excellent. Nitrogen fertilizer is commonly used for these row crops. Adequate drainage can be easily provided through main and lateral ditches and row drainage. Open ditches should be widely spaced and of adequate size. They will help to keep the water table low.

Jeanerette silt loam, thin solum phase (Jb).—This is a soil of the low Mississippi River terraces. It occurs in small areas in the western, northwestern, and southwestern parts of the parish. The areas are level or nearly level. This soil occurs at slightly higher elevations than the associated Iberia soils and at lower elevations than the Cypremort and Baldwin soils. Most of the areas are 4 or 5 feet above sea level, but a few small areas north of Charenton occur at elevations of 8 or 9 feet.

This soil contains less organic matter and has a thinner surface soil and subsoil than Jeanerette silt loam. It appears to have developed in isolated bodies of water or on lake shores where conditions were unfavorable for large amounts of organic material to accumulate.

Typical profile:

0 to 10 inches, very dark-brown friable silt loam; moderate fine granular; a few iron and lime concretions on the surface; whitish gray efflorescence on surface when dry; moderately alkaline.
10 to 12 inches, very dark-brown compact silty clay loam (plowsole layer); moderate medium platy; moderately alkaline.
12 to 15 inches, dark grayish-brown, compact, massive silty clay loam or fine sandy clay loam; many small, hard lime concretions, and a few brown and black, hard concretions; moderately alkaline.
15 to 26 inches, grayish-brown loamy fine sand or very fine sandy loam; a few dark-brown, soft iron concretions; moderately alkaline.
26 to 34 inches, light brownish-gray loamy very fine sand or sandy loam mottled with brown and gray; moderately alkaline.
34 to 40 inches, light-gray massive silty clay loam or silt loam mottled with light yellowish brown; many hard lime concretions; moderately alkaline.

In places there is an abrupt transition from the surface soil to a layer that contains many concretions of iron and lime. The surface soil is dark brown, very dark brown, or very dark gray.

This soil contains moderate amounts of organic matter and is fairly well supplied with most plant nutrients. It is moderately permeable. Reaction ranges from moderately alkaline to neutral, and drainage from imperfect to moderately good. Surface runoff is slow, and internal drainage is medium to slow. The water table is moderately low. The soil receives runoff from higher areas, but it is adequately drained by row drainage and widely spaced open ditches.

Use and management.—This soil is in management group II–2. All of it is cultivated. Most of it occurs in small areas, all of which are used for sugarcane, corn, and soybeans. This soil is not so productive as the deeper Jeanerette silt loam. It is not suited to rice but is well suited to pasture and hay.

The surface soil, which is 10 to 12 inches thick, is favorable for plant growth. Low yields are common on small areas that have a thick scattering of lime and iron concretions on the surface or at shallow depths. Yields of sugarcane may be increased by plowing under green-manure crops and by using the proper kinds and amounts of fertilizer.

Jeanerette silty clay loam, thin solum phase (Jc).—Except for the texture of the surface layer, this soil of

the low Mississippi River terraces is similar to Jeanerette silt loam, thin solum phase. It occurs in small areas of the back lands in the western part of the parish. It is associated with the Patoutville soils and with Jeanerette silt loam. Other small areas occur in the northwestern part of the parish between the higher areas of Baldwin silt loam and the lower areas of Iberia clay.

Use and management.—This soil is in management group II–2. It is used and managed in about the same way as Jeanerette silt loam, thin solum phase.

Jeanerette-Iberia Complex

The Jeanerette and Iberia soils are so intermingled in areas of irregular shape that it was not feasible to map them separately. They were therefore mapped as a single unit.

Jeanerette-Iberia very fine sandy loams (Jd).—Jeanerette very fine sandy loam and Iberia very fine sandy loam occur on low terraces of the Mississippi River. They occupy small- to medium-sized areas in the southwestern, western, northwestern, and central parts of the parish. Most of the areas occur at elevations intermediate between those occupied by the higher Cypremort and Baldwin soils and those occupied by the lower Iberia soils. At the Alice B. and Ivanhoe plantations these soils occur on the crests of the low natural levee ridges, about 4 or 5 feet above sea level. Relief is level to nearly level.

These soils contain moderate amounts of organic matter and are well supplied with most plant nutrients. They are poorly drained to moderately well drained. Surface runoff is slow, and internal drainage is medium to slow.

Typical profile of Jeanerette very fine sandy loam:

0 to 9 inches, very dark grayish-brown friable very fine sandy loam; moderate fine granular; mildly alkaline.
9 to 12 inches, very dark-gray massive silty clay; weak thick platy; a few hard, brown concretions; a few grayish-brown and yellowish-brown mottles; mildly alkaline.
12 to 18 inches, light brownish-gray friable silty clay loam; weak medium angular blocky; a few dark-brown and yellowish-brown mottles; moderately alkaline.
18 to 24 inches, light brownish-gray friable silty clay loam mottled with dark gray and yellowish brown; moderate fine angular blocky; few hard whitish lime concretions; moderately alkaline.
24 to 40 inches, light brownish-gray friable very fine sandy loam; a few very dark gray mottles; a few large whitish lime concretions; moderately alkaline.

A whitish efflorescence is frequently observed on the dry surface of Jeanerette very fine sandy loam. In many places lime concretions are on the surface. The surface layer ranges from very dark grayish brown to dark gray. The thin silty clay layer, between depths of 9 and 12 inches, is lacking in some places; in these places the texture is fine sandy clay loam and the reaction is netural or moderately alkaline. The lower subsoil and the substratum range in texture from silty clay loam to very fine sand and contain lime and iron concretions in many places. Some small areas have a very fine sandy loam texture throughout and show no profile development.

The Jeanerette soil is moderately permeable. Surface runoff is slow, and internal drainage is medium. Some areas are somewhat droughty.

Typical profile of Iberia very fine sandy loam:

0 to 8 inches, grayish-brown friable very fine sandy loam; moderate fine granular; slightly acid.
8 to 12 inches, black compact silt loam or very fine sandy loam; massive or weak thick platy; slightly acid.
12 to 20 inches, black plastic clay; few mottles of pale brown; moderate fine angular blocky; slightly acid.
20 to 30 inches, very dark-gray plastic clay mottled with pale brown; massive; neutral.
30 to 40 inches, dark-gray friable silt loam or silty clay loam mottled with pale brown; neutral.

The surface layer ranges from slightly acid to neutral in reaction, and in places it is very dark gray. The subsoil ranges from slightly acid to neutral in reaction, and the substratum, from neutral to mildly alkaline.

Surface runoff and internal drainage are slow in Iberia very fine sandy loam. The friable surface soil has good tilth. It can be worked within a wide range of moisture content. Permeability of the soil to air, roots, and moisture is generally favorable for crops.

Use and management.—This mapping unit is in management group II–2. All of the areas are used to grow sugarcane, corn, or soybeans. The soils are well suited to pasture and hay. They are generally well supplied with organic matter and plant nutrients, and yields are moderate to high. Fields are easily drained by row drainage and widely spaced ditches.

A few small areas in the southwestern part of the parish have a thick scattering of lime concretions on the surface or at shallow depths. These places, locally called "salt spots," are not well suited to crops because of the concentration of salts.

Yields can be increased on Jeanerette-Iberia very fine sandy loams if row drainage and lateral ditches are kept in good condition and if the proper kinds and amounts of fertilizer are used.

Local Alluvium

Local alluvium, poorly drained (La).—This land type consists of practically all the poorly drained bottom lands that lie along Bayous Sale and Cypremort and along smaller streams that drain the slopes between the natural levee ridges. It is made up of alluvium that was washed from the adjacent stream slopes and deposited in narrow bands along the stream channels. Little of this material has moved far downstream.

Most of the soil materials are clays and silty clays, mixed with some thin strata of silt loams and very fine sandy loams. They are typically gray in color. The areas are frequently flooded during heavy rains. The reaction ranges from strongly acid to neutral.

Use and management.—This land type is in management group V–2. It is not suited to cultivated crops, because the areas are narrow and often flooded. The soil is fine textured and lacks favorable structure. Most of it is used for pasture or as woodland.

Made Land

Made land (Portland and Perry soil materials) (Mc).—This mapping unit is made up of mixed sediments of the Mississippi and Red Rivers. These materials have been piled along streams or pumped over the natural levee ridges during the construction of canals or during the process of maintaining the canals and bayous. Most of this mapping unit occurs in association with the Cypremort and Baldwin soils on small areas within the mixed lands of the natural levee. It has about the same suitability for crops as the Cypremort and Baldwin soils. It is

comprised of layers of sediments of varying thickness, texture, and color.

This mapping unit occurs at higher elevations—5 to 15 feet above sea level—than the Made lands of the marshes and swamps. It differs from them in being predominantly brown instead of gray and in being moderately well drained to imperfectly drained instead of poorly drained. Surface runoff and internal drainage are medium to slow. Relief is suitable for effective gravity drainage. The reaction is slightly acid to mildly alkaline.

Use and management.—This mapping unit is in management group II–1. Most of the areas are used for sugarcane and corn, but some are in woodland or pasture. Crop yields are generally good. The areas need about the same management and yields are about the same as on the Baldwin silty clay loams. A few spoil-bank areas are too small or too inaccessible for agricultural use.

Made land in marsh (Ma).—This mapping unit consists of soil materials that have been excavated and pumped from canals and bayous. The materials were piled along the streams or pumped over large areas of the coastal marsh. Made land in marsh is associated with Fresh water marsh, clays and mucky clays; Brackish marsh, muck; and Brackish marsh, peat.

Most areas are at or near the level of the marsh, but areas along the canals occur at elevations of 5 or 6 feet. The vegetation consists of fresh-water plants such as common reed, cutgrass, big cordgrass, paille finne, cattail, switchgrass, delta potato, and couchgrass.

The soil materials are gray plastic clays and silty clays that have a few yellowish-brown mottles. They are strongly acid to slightly acid.

Use and management.—This mapping unit is in management group VII–1. Only small areas are high enough to be suited to cultivated crops, and most of these are inaccessible. This mapping unit generally occurs at higher elevations and is somewhat better suited to grazing than the other marsh soils. It is also used for trapping and hunting.

Made land in swamp (Mb).—This mapping unit is made up of large areas of materials that have been dredged or pumped from canals. The soil materials were piled along the canals or pumped over large areas of swamp. The mapping unit occurs within the areas occupied by Swamp, clays and mucky clays, and Sharkey-Alligator clays, both of which are poorly drained bottom lands of the Mississippi River. The areas are a few inches to 6 feet above the general level of the swamp. All of them are in forests of willow, sweetgum, pecan, swamp maple, myrtle, cypress, and hackberry.

The soil materials consist of poorly drained light-gray clays or silty clays that have a few lenses of gray fine sand. Typically, they have some yellowish-brown mottlings. The reaction is medium acid to mildly alkaline.

Use and management.—This mapping unit is in management group V–2. Areas that are most easily accessible are too narrow or too small for cultivation. Most areas are too low in elevation to be used for agriculture and are used principally for forests, seasonal grazing, hunting, and trapping.

Mixed Clay Alluvium

Mixed clay alluvium (overflow phase) (Mf).—This mapping unit is made up of mixed alluvium deposited by the Mississippi and Red Rivers. It occurs in forested swamps along the shore of Six Mile Lake and on Drew, Little, Berwick, Middle, and Morgan Islands where the alluvium has been deposited by the Atchafalaya River. The alluvial materials are predominantly clays and silty clays.

This mapping unit occurs at elevations ranging from sea level to as much as 5 feet. The vegetation is mainly pecan, cypress, willow, buttonbush, live oak, haw, and tupelo-gum trees. In open-swamp areas there is an undergrowth of lizardtail (*Saururus cernuus*), cutgrass, hibiscus (*Hibiscus lasiocarpus*), pickerelweed (*Pontederia cordata*), and delta potato.

In most places the profile is similar to that of the soils of the Perry series. In contrast to some areas of Swamp, clays and mucky clays, it has many red, reddish-brown, and yellowish-red mottles scattered throughout the gray alluvium; a moderate to strong granular structure in the surface layer; and, in most places, a moderate to strong angular blocky structure in the substratum. The layers are not so thinly stratified as to texture and color as those of the Buxin-Portland-Perry soils.

In a few places, the surface is covered by an overwash of 2 to 10 inches of brown thinly stratified silt loam and very fine sandy loam.

This mapping unit is frequently inundated and is poorly drained. Surface runoff is slow to very slow, and internal drainage is very slow. The soil is medium acid to neutral.

Use and management.—This mapping unit is in management group V–2. It is used principally for forests, hunting, trapping, and seasonal grazing.

Patoutville Series

The Patoutville soils occur on stream terraces. They have developed from old, slightly acid to mildly alkaline alluvium. This material was deposited by the Mississippi River and its distributaries late during the Pleistocene epoch. The soils occur in small areas in the western part of the parish, at elevations of 5 to 10 feet. They occupy low ridges in association with the Iberia and Jeanerette soils. Most areas are level or nearly level, but small areas are on slopes of 2 to 4 percent. The native vegetation consisted of prairie grasses. All areas of these soils have been used for row crops for at least 50 years.

The Patoutville soils, in general, are imperfectly drained. They are more acid, lower in plant nutrients, and less productive of row crops than the Cypremort soils, Baldwin silt loam, and Baldwin very fine sandy loam. They are more acid and have a lighter colored surface soil than the Jeanerette and Iberia soils. The Patoutville soils differ from the Baldwin soils in having a silty clay loam subsoil that has a weak to moderate angular blocky structure instead of a clay subsoil with strong fine angular blocky structure. They differ from the associated Olivier soils, which occur in Iberia Parish, in having a substratum that is slightly acid to neutral instead of strongly acid.

Patoutville very fine sandy loam, level phase (Pc).—This soil occupies level areas in the western part of the parish. It occurs on ridgetops and benches, at elevations of 5 to 10 feet, slightly above the lower lying soils of the Iberia and Jeanerette series.

Typical profile:

0 to 4 inches, dark grayish-brown friable very fine sandy loam; moderate thin platy and moderate fine granular; many

small, brown and black, round concretions on surface and throughout the layer; strongly acid.
4 to 12 inches, dark-gray, compact, firm very fine sandy loam; strong medium platy; many small, round, brown and black, hard concretions; strongly acid.
12 to 20 inches, dark reddish-brown to dark-brown compact silty clay loam mottled with strong brown and yellowish red; moderate medium angular blocky; many small, round, brown and black concretions; medium acid.
20 to 30 inches, yellowish-brown friable silty clay loam with mottles and tongues of dark-gray silt loam; moderate medium subangular blocky; many small, round, brown and black concretions; medium acid.
30 to 42 inches, gray or grayish-brown friable silt loam mottled with yellowish brown; contains a few large brown and black concretions that are hard or soft; neutral.

The 0- to 4-inch surface layer ranges from dark grayish brown to brown in color and from strongly acid to medium acid in reaction. The 4- to 12-inch layer is dark gray or brown. The upper subsoil layer (12 to 20 inches) has a massive or weak to moderate medium angular blocky structure in places and is medium acid to neutral. The lower subsoil layer (20 to 30 inches) ranges from massive to moderate medium angular blocky.

Surface runoff, internal drainage, and permeability are all slow. Open ditches and rows running with the slope provide fair to good drainage. The water table is at moderately low depths. Tilth of the surface soil is favorable over a moderately wide range of moisture content. Crop yields, though about average for the parish, as a rule are lower than on Cypremort soils, Baldwin silt loam, and Baldwin very fine sandy loam.

Use and management.—This soil is in management group II–1. All of it is used for sugarcane and corn, but it is well suited to irrigated rice and to pasture and hay. This soil is moderately low in organic matter. It produces crop yields that are about average for the parish under the usual management, which includes a fair degree of artificial drainage and moderate applications of fertilizer.

Improvements in row drainage and gravity drainage by ditches are necessary. Other management practices that will increase crop yields are breaking the plowsole frequently by deep plowing; using green-manure crops in the rotation, when feasible; and applying larger amounts of fertilizer than are now being used.

Patoutville very fine sandy loam, eroded gently sloping phase (Pb).—This soil has a thinner surface layer than Patoutville very fine sandy loam, level phase. The surface layer ranges from 2 to 6 inches in thickness. This soil occupies small convex ridges and short, narrow slopes of escarpments in the western part of the parish. On the escarpment slopes it occurs between areas of Jeanerette silt loam that are in depressions and areas of Patoutville very fine sandy loam, level phase, and Patoutville silt loam that occupy flat ridgetops. Slopes range from 2 to 5 percent.

Sheet erosion, caused by tilling crops with the slope, has resulted in the loss of much of the surface soil. Consequently, much of the organic matter and plant nutrients has been lost.

This soil is medium acid to strongly acid. Natural drainage is imperfect. Surface runoff is medium, and internal drainage is slow. The moisture-holding capacity is good. Crops are seldom damaged by lack of moisture during extended dry periods.

Use and management.—This soil is in management group III–1. All of it is used to grow sugarcane and corn. Yields are fair to moderate but are lower than those on Patoutville silt loam and Patoutville very fine sandy loam, level phase. The soil is not well suited to irrigated rice but is suited to pasture and hay.

Yields can be increased by fertilizing properly; controlling erosion by tilling on the contour but allowing enough slope in the rows for adequate soil drainage; and plowing under green-manure crops.

Patoutville silt loam (Pa).—Except for the texture of the surface layer, this soil is similar to Patoutville very fine sandy loam, level phase. It occupies small, level to nearly level areas in the western part of the parish. It occurs on low ridges in association with Patoutville very fine sandy loam, level phase, and with depressional soils of the Jeanerette and Iberia series.

This soil is imperfectly drained. Surface runoff and internal drainage are slow. Open ditches and row drainage are used to remove excess surface water.

Use and management.—This soil is in management group II–1. All of it is used to grow sugarcane and corn. Yields are about the same as those for Patoutville very fine sandy loam, level phase. They can be increased by using fertilizer properly, plowing under green-manure crops, improving drainage, and occasionally plowing deep to break up the slowly permeable to impervious plowsole layer.

Richland and Lintonia Soils

In St. Mary Parish, the soils of the Richland and Lintonia series are mapped as a single unit. They occur in an intricate pattern on areas of irregular shape. They have developed over salt domes from alluvium of the late Pleistocene epoch. The parent material has washed from areas of loess, but in places it may have been mixed with sediments that were deposited by the wind at the place where the soil developed.

In other parts of the parish these older alluvial sediments, similar to the parent materials of these soils, are buried under 50 to 100 or more feet of more recent alluvium. In areas of Richland and Lintonia soils, however, the weight of the sediments caused stresses to develop within the earth. Continued pressure pushed the salt beds upward. As a result, the older alluvium was forced to the surface and now lies at elevations of more than 100 feet.

Richland and Lintonia soils, severely eroded undulating to hilly phases (Ra).—This mapping unit is made up of areas of Richland and Lintonia soils. The soils occur within the areas of coastal marsh in the southern and southwestern parts of the parish. These soils have been severely damaged by sheet and gully erosion. The original surface soil and subsurface layer have been removed, in places, along with a considerable part of the subsoil. In large areas the surface soil is only 3 to 4 inches thick.

The natural vegetation was a dense stand of mixed hardwoods that included live oak, red oak, white oak, hickory, sweetgum, and hackberry.

The Richland silt loams are moderately well drained terrace soils. They are moderately permeable and are leached. The surface layer consists of brown friable silt loam and the subsoil of brown or yellowish-brown somewhat compact silty clay loam. At depths of 18 inches or more is a mottled, weakly cemented fragipan layer.

The surface layer of the Richland soils is medium acid to strongly acid, and the subsoil is strongly acid to very

strongly acid. Surface drainage and internal drainage are medium.

Typical profile of Richland silt loam, severely eroded undulating to hilly phase:

0 to 6 inches, brown friable silt loam; moderate fine granular; medium acid.
6 to 12 inches, dark yellowish-brown silt loam; strong fine granular; strongly acid.
12 to 20 inches, dark yellowish-brown compact silty clay loam; strong medium subangular blocky; very strongly acid.
20 to 32 inches, dark yellowish-brown, compact, firm silt loam or silty clay loam; distinct large mottles of gray, pale brown, and yellowish brown; weak medium subangular blocky; very strongly acid.
32 to 84 inches, dark yellowish-brown friable silt loam or silty clay loam; a few distinct large and small mottles of pale brown; weak medium subangular blocky; strongly acid.
84 to 100 inches, mottled light-gray and brownish-yellow plastic clay; massive to weak medium angular blocky; very strongly acid.

Lintonia silt loams are similar to Richland silt loams in color, texture, parent material, and reaction but have no fragipan layer. They occur on slopes of 8 to 20 percent. Surface drainage is rapid, and internal drainage is medium.

Typical profile of Lintonia silt loam, severely eroded undulating to hilly phase:

0 to ½ inch, dark-brown decayed or partly decayed leaves, twigs, and other organic matter.
½ to 8 inches, brown friable silt loam; weak medium to fine granular; medium acid.
8 to 26 inches, brown friable silty clay loam; moderate medium and fine subangular blocky; very strongly acid.
26 to 48 inches, brown friable silt loam; weak medium granular; very strongly acid.
48 to 62 inches, yellowish-brown compact silt loam; streaks of gray and brown silt loam; very strongly acid.

In many places the layer of forest litter is absent. Because of the effects of very severe erosion, the surface layer is only 2 to 4 inches thick in many areas. The subsoil ranges in color from brown to reddish brown.

Use and management.—This mapping unit is in management group VI–1. The soils are strongly sloping and have been severely eroded, so they are not suited to cultivated crops. They are well suited to use as woodland and as native-grass pastures. The soils are used for forest, seasonal grazing, hunting, and trapping.

Sharkey-Alligator Complex

Sharkey clay and Alligator clay occur in such an intricate association in this parish that it was not practical to separate them. As a result these soils are mapped as a single unit.

Sharkey-Alligator clays (Sa).—These poorly drained soils of the bottom lands were derived from mixed alluvium deposited by the Red and Mississippi Rivers. They lie along Six Mile and Parlourde Lakes. Areas of these soils occur in the northern and western parts of Avoca Island. They occur at slightly higher elevations, 3 to 5 feet above sea level, than Swamp, clays and mucky clays, but they are slightly lower than the Baldwin soils. The areas are level and are slightly above those that are frequently overflowed. The native vegetation includes water oak, sweetgum, hackberry, and some bay, swamp maple, cypress, and tupelo-gum.

Sharkey clay has a darker surface soil and upper substrata layers and is better developed structurally than Alligator clay. A description of Alligator clay appears on page 13.

Typical profile of Sharkey clay:

0 to 5 inches, very dark gray clay; strong fine granular; mildly alkaline.
5 to 20 inches, dark-gray plastic clay mottled with yellowish brown and gray; strong fine angular blocky; mildly alkaline.
20 to 44 inches, gray plastic clay mottled yellowish brown; massive; mildly alkaline.

The surface layer ranges in color from very dark gray to brown, in texture from silty clay to clay or mucky clay, and in structure from strong fine granular to moderate fine granular. Between depths of 5 and 20 inches, the soil material ranges in color from dark gray mottled with yellowish brown to grayish brown mottled with gray. In structure it ranges from strong fine angular blocky to moderate fine angular blocky.

The soils range from mildly alkaline to slightly acid in reaction. Surface runoff and internal drainage are slow to very slow.

Use and management.—This mapping unit is in management group V–1. The largest areas are in forest; small areas are used for sugarcane, for pasture, or are idle. These soils are well suited to rice.

All areas need to be artificially drained to grow row crops. If adequately drained, these soils produce moderate to good yields of sugarcane and corn. Gravity drainage is effective in some places, especially those adjoining areas of Baldwin soils at relatively high elevations. Lower lying areas, however, must be protected by levees and surface water must be pumped out.

Swamp, Clays and Mucky Clays

Swamp, clays and mucky clays (Sb and Ac).—This mapping unit is comprised of poorly drained and very poorly drained soils derived from Mississippi River materials and from mixed Mississippi River and Red River alluvium. The soils do not have a thick organic surface layer like that of Swamp, muck, and Swamp, peat.

Large areas of this mapping unit occur in woodlands and swamps throughout the parish, between the Iberia soils on the lowest parts of the natural levee ridges and the lower lying Swamp, muck, and Swamp, peat, and the organic soils of the coastal marshes. Other large areas lie in the northern part of the parish along the shores of Grand, Six Mile, and Palourde Lakes in association with, and at the same elevation as, Mixed clay alluvium (overflow phase). These sites are lower than those occupied by the associated Sharkey-Alligator clays, and they are frequently overflowed. In the southeastern part of the parish, east of the Wax Lake outlet channel, large areas of these soils occur in association with areas of Fresh water marsh, clays and mucky clays, but at slightly higher positions.

Much of the soil is level or in depressions. Along the borders of the natural levee ridges, these soils occur in depressions that are catch basins for water that runs off soils on the ridges. The elevation ranges from sea level to 3 feet. Large areas are frequently inundated by tidal waters and stream overflow.

Most areas have a dense stand of the following swamp trees: Willow, bay, swamp maple, myrtle, cypress, tupelo-gum, pecan, palmetto, and buttonbush. Areas at higher elevations support dense forests of oak, sweetgum, and hackberry. In lower sites that have an open stand of trees there is an undergrowth of marsh plants

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that includes lizardtail, delta potato, cutgrass, and cattail.

Profile of a clay soil in this mapping unit:

0 to 1½ inches, very dark grayish-brown plastic clay; weak fine granular; medium to slightly acid; water table 2 inches below surface.

1½ to 20 inches, gray plastic and sticky clay; a few, medium, distinct mottles of strong brown around roots and root channels; massive; medium to slightly acid.

20 to 44 inches, gray plastic wet clay; a few, large, prominent mottles of yellowish brown; a few, small, round, brown and black concretions; massive; mildly alkaline.

The surface soil is gray, very dark gray, brown, or very dark grayish brown, and it is medium acid to slightly acid. It ranges from clay to silty clay or mucky clay in texture and from 1½ to 5 inches in thickness. The substratum is mildly alkaline to slightly acid. It is commonly gray or gray, mottled with yellowish-brown clay or silty clay. In some areas the profile is free of mottling throughout.

Included in this mapping unit are soils similar to Sharkey clay. The surface soil, to a depth of 8 inches, is brown or very dark-gray moderate fine granular clay, silty clay, or mucky clay that is medium to slightly acid. The layer between 8 and 20 inches is dark-gray or brown clay or silty clay mottled with gray; this material is medium acid to mildly alkaline and weak to moderate subangular blocky in structure. Below a depth of about 20 inches, there is gray clay or silty clay that is mottled yellowish brown and is slightly acid to mildly alkaline in reaction.

Surface runoff is very slow or ponded, and internal drainage is very slow or lacking. Water is near or on the surface much of the time.

Use and management.—This mapping unit is in management group V–2. It is one of the most extensively forested soils of the parish. It is also used for seasonal grazing, hunting, and trapping. Most areas are frequently flooded and are therefore unsuited to crops.

A few small areas that lie next to the edges of the natural levee ridges are high enough for efficient gravity drainage and are suited to pasture and hay crops. Constructing artificial drainage systems and dikes and pumping water from fields are necessary to make the soil suitable for row crops and rice.

Swamp, Muck

Swamp, muck (Md).—This organic soil occurs in a large area between Wax Lake and the Bayou Sale ridge. This low area is frequently inundated by runoff from higher areas to the north and west, and water is on or near the surface at all times. Some alluvial sediments are deposited when the outlet channel of Wax Lake overflows.

This organic soil differs from Swamp, peat, in that the surface layer consists of black or brown finely divided muck instead of fibrous peat materials. Swamp, muck, has accumulated under conditions that have caused plant remains to decompose to a greater degree than in Swamp, peat. The muck is nonsticky when wet and very friable when dry. The amount of organic matter ranges from 15 to 50 percent. The amount of mineral soil materials varies.

The vegetation normally consists of thin, open stands of swamp maple, myrtle, bay, and willow, a few cypress and tupelo-gum trees, and a luxuriant growth of freshwater plants, including lizardtail, delta potato, cutgrass, and common cattail. The trees are typically shorter and smaller than those on Swamp, peat.

Typical profile:

0 to 18 inches, very dark-gray finely divided muck containing remains of swamp and marsh vegetation; very strongly acid.

18 to 72 inches, dark-gray silty muck; few roots; extremely acid.

72 to 108 inches, gray plastic clay; massive; extremely acid.

The muck ranges in texture from silty muck to peaty muck. It ranges from 1 to 8 feet in thickness but is generally 2 to 3 feet thick. It is very strongly acid to slightly acid in reaction. The muck is underlain by alluvial silty clay or clay. The clay substratum ranges in reaction from extremely acid to neutral.

Use and management.—This mapping unit is in management group VII–2. It is used chiefly for forests, trapping, hunting, and some seasonal grazing.

Swamp, Peat

Swamp, peat (Me).—This organic soil occupies large areas in the western part of the parish. On the south, or bay side, it is associated with the marsh soils. On the inland margin it lies next to Swamps, clays and mucky clays, which extends along the sides of the natural levees of Bayous Cypremort, Sale, and Teche.

Most areas are covered by water-tolerant vegetation. There is a dense stand of cypress, tupelo-gum, and swamp maple trees. Where the stand is thin, there is an undergrowth of marsh plants such as alligatorweed, cattail, hibiscus, delta potato, cutgrass, and lizardtail.

No well-defined streams flow through the areas of this flat or depressed swamp soil, but the areas are crossed by several major drainage canals. Several inches of water is on the surface most of the time. Frequently the water is as deep as 2 feet. This swamp soil is affected little by saline tidal waters. During storm tides, the rainfall is unusually heavy. Except in small areas, rainwater and runoff from higher areas supply enough fresh water to prevent damage through the encroachment of saline waters. Northwest, west, and southwest of the post office at Louisa, near the Iberia Parish boundary, are small areas of dead cypress trees that outline the areas where saline waters have encroached upon the swamp.

Typical profile:

0 to 48 inches, dark reddish-brown coarse to medium-textured woody peat containing small and large fragments of wood; granular structure that gives the appearance of very coarse sawdust; strongly acid; 53.0 percent organic matter.

48 to 84 inches, gray, dense, plastic clay with thin lenses of dark-gray clay; massive; contains small fragments of logs and stumps; neutral.

Swamp, peat, ranges from dark reddish brown to black. It has a very coarse granular, a fine to coarse blocky, or a fine to coarse fragmental structure (*2*). In areas where abundant remains of marsh vegetation have accumulated, the soil is coarse to fine fibrous. The peat surface layer ranges from 3 to 10 or more feet in thickness but is usually 3 to 4 feet. It overlies clay or silty clay. The surface soil ranges from strongly acid to slightly acid in reaction, and the underlying clay, from strongly acid to neutral.

Use and management.—Swamp, peat, is in management group VII–2. This organic soil provides little grazing. It is used mostly for forest and for hunting and trapping.

Use and Management of the Soils

This section consists of four main parts. In the first, the capability classes are defined. In the second, groups of soils within the capability classes are discussed as management groups and use suitability and management suggestions are described for each group. In the third, the soils are grouped according to their suitability for rice, and in the fourth, they are grouped according to their suitability for improved pasture.

Capability Grouping of Soils

The capability classification is a means of showing the comparative suitability of different soils for agricultural uses. The classification of a particular soil depends on the variety of uses to which the soil is suited, its susceptibility to erosion or other damage if it is cultivated, and the kind of management it needs to protect it from erosion or excess water and to maintain its productivity.

Eight general capability classes are recognized. In classes I, II, and III are soils that are suited to annual or periodic cultivation.

Class I soils are those that have the widest range of use. They are level or nearly level, productive, at least fairly well drained, and easy to work. They do not erode readily, even if cultivated frequently, and will remain productive if managed with normal care.

Class II soils do not have quite so wide a range of suitability as class I soils. Class II soils are slightly wet or somewhat limited in depth and consequently need moderate care to remove excess water.

Class III soils can be cropped regularly, but they have a narrower range of use and need still more careful management than the soils in class II.

Class IV soils are suited to only occasional cultivation or can be cultivated only under very careful management. (Because only small areas of class IV soils occur in St. Mary Parish, they have been included with the class VI soils.)

In classes V, VI, and VII are soils that ordinarily are not suited to cultivation but that can be used for pasture, for range, or for forest. Class V soils are level or nearly level but are wet or otherwise unsuited to cultivation. Class VI soils are not suitable for crops, because they are steep or otherwise limited, but they give fair yields of forage or forest products. Some class VI soils can be cultivated enough so that forest trees can be set out or pasture plants seeded. Class VII soils are not suited to cultivation and are severely limited for pasture or woodland.

Class VIII soils have practically no agricultural use. They produce little vegetation that can be harvested or grazed. They may provide recreational areas or shelter for wildlife.

Capability Classification of St. Mary Parish Soils

The capability classes in which the soils of St. Mary Parish have been placed are described below.

Class I.—Nearly level, well-drained, productive soils that have few limitations for use; suitable for intensive cultivation without special practices other than those used for good farming anywhere.

I–1.—Medium-textured, moderately well drained, permeable soils on undulating and nearly level slopes.

Class II.—Soils suited to tilled crops, pasture, and trees but subject to moderate limitations when tilled.

II–1.—Medium-textured, imperfectly drained, slowly permeable soils that are level or nearly level.

II–2.—Medium-textured, imperfectly drained and moderately well drained, moderately permeable soils that are level or nearly level and that receive excess water from soils at higher elevations.

II–3.—Medium-textured and moderately fine textured, imperfectly drained and poorly drained, slowly permeable soils that are level or nearly level and that receive moderate amounts of runoff water from soils at higher elevations.

Class III.—Soils suited to tilled crops, pasture, and trees but that have moderately severe limitations when tilled.

III–1.—Medium-textured, imperfectly drained to moderately well drained, moderately permeable soils on severely eroded gentle slopes.

III–2.—Fine-textured, imperfectly drained, slowly permeable and very slowly permeable soils that are level or nearly level and that receive moderate amounts of runoff water from other areas.

III–3.—Fine-textured, poorly drained, slowly permeable and very slowly permeable soils that are level and that receive large amounts of runoff water from other areas.

III–4.—Fine-textured and medium-textured, poorly drained and very poorly drained, slowly permeable soils that are level and receive large amounts of runoff water from other areas.

Class V.—Soils not suited to cultivation because of standing water or frequency of overflow; suitable for pasture or for use as woodland.

V–1.—Fine-textured and medium-textured, poorly drained, very slowly permeable soils on low ridges and marsh and swamp borders that are either only slightly above areas that normally are overflowed or are protected against overflow.

V–2.—Fine-textured and medium-textured, poorly drained and moderately well drained soils of the bottom lands that are subject to frequent flooding.

Class VI.—Soils ordinarily not suited to cultivation because of steep slopes, shallowness, or severe erosion but suitable for pasture or for use as woodland.

VI–1.—Deep, moderately well drained, slowly permeable, severely eroded soils on gentle and steep slopes.

Class VII.—Soils not suited to cultivation because of wetness or inaccessibility.

VII–1.—Poorly drained, frequently flooded soils.

VII–2.—Organic soils of the swamps that have water on or near the surface most of the time.

Class VIII.—Soils not suited to the growing of commercial vegetation but that furnish food for wildlife.

VIII–1.—Brackish-water clays and organic soils of the marshlands; usually wet and subject to frequent overflow; unstable for livestock to walk on.

Management Groups of Soils

The soils and miscellaneous land types of St. Mary Parish have been placed in 14 management groups, each comprised of soils that need and respond to about the

same kind of management. The common management practices used and the improved management practices needed for higher yields are described for each group. Approximate yields per acre are given for crops grown under both types of management.

In this parish, the suitability of the individual soils for row crops is determined largely by the rate at which excess water drains off, either naturally or by artificial means. The effectiveness of soil drainage is determined mainly by the texture of the soil, the degree of slope, and the elevation at which the soil occurs. On most soils that lie at elevations of 4 feet or more, the surface water runs off and the soil can be drained by the natural gravity flow of the excess water. But most soils that lie at lower elevations require protective levees to control flooding and pumps to remove excess water.

The suggestions as to the kinds and amounts of fertilizer to be used are meant to serve only as a general guide. For specific fertilizer recommendations applicable to crops grown on an individual soil, consult the Louisiana Agricultural Experiment Station, the local representative of the Soil Conservation Service, or the county agricultural agent. Soil sample analyses and fertilizer recommendations for specific crops are services of the soils laboratory of the Louisiana State University.

Management group I–1

This group is made up of medium-textured, moderately well drained, permeable soils that occupy level to nearly level areas at the crests of the natural levee ridges. The soils are easily tilled.

The soils are moderately well supplied with plant nutrients and are fair to moderately high in organic matter. No appreciable amounts of plant nutrients have been lost through water erosion. Nevertheless, the soils are deficient in nitrogen and somewhat deficient in phosphorus and potassium. The friable surface layer and subsoil are permeable to water, and plant roots penetrate easily. Reaction ranges from medium acid to slightly acid. The following soils are in management group I–1:

Cypremort very fine sandy loam.
Cypremort silt loam.

Use and management.—The soils of this group are used entirely for row crops. The principal management problem is that of keeping the soils fertile. Most crops grown on these soils respond to fertilizers. The soils are suited to intensive use if properly managed.

A 4-year rotation consisting of 3 years of sugarcane and either 1 year of corn or 1 year of corn and soybeans is generally followed. About 40 pounds of nitrogen per acre is commonly applied to plant cane, and 60 pounds per acre to stubble cane. Corn generally receives 50 pounds or more of nitrogen per acre. The approximate acre yields obtained under these management practices are 20 to 25 tons of plant cane, 18 to 22 tons of first-year stubble cane, 14 to 17 tons of second-year stubble cane, and 40 to 50 bushels of corn.

Yields of sugarcane can be increased by applying 60 to 80 pounds of nitrogen per acre to plant cane, 100 pounds of nitrogen to stubble cane, and 25 to 40 pounds of available phosphoric acid (P_2O_5) and 40 to 60 pounds of available potash (K_2O) per acre to both plant cane and stubble cane.[4] [5] Average acre yields obtained after such applications have been made are 28 to 30 tons of plant cane, 22 to 25 tons of first-year stubble cane, and 18 to 22 tons of second-year stubble cane.

Corn that is fertilized with 50 pounds of nitrogen, 50 pounds of available phosphoric acid, and 50 pounds of available potash per acre and sidedressed with 50 pounds of nitrogen should yield 55 to 65 bushels per acre.

Management group II–1

The soils of group II–1 are medium textured, imperfectly drained, and slowly permeable. They occur near the crests of the natural levee ridges. The soils are level or nearly level. Surface runoff and internal drainage are slow.

These soils have a friable surface layer and are easily tilled. They are moderate to low in organic matter and plant nutrients. In general, they are slightly acid to medium acid. The following soils are in management group II–1:

Baldwin very fine sandy loam.
Baldwin silt loam.
Baldwin silt loam, compacted phase.
Baldwin silt loam, dark-colored surface phase.
Buxin-Portland-Perry soils, nearly level phases.
Made land (Portland and Perry soil materials).
Patoutville very fine sandy loam, level phase.
Patoutville silt loam.

Use and management.—The soils of group II–1 have been used for row crops for the past 50 to 100 years or more. The principal management problems consist of providing adequate soil drainage and keeping the soil fertile.

The soils are drained by running the crop rows with the slope. Widely spaced ditches help to remove excess water and to keep the water table below a depth of 2 feet.

The crop rotation commonly used consists of 3 years of sugarcane followed by 1 year of corn or soybeans or by 1 year of fallow. Plant cane is generally fertilized with 40 pounds of nitrogen per acre, and stubble cane with 60 pounds of nitrogen. Corn commonly receives applications of 50 pounds of nitrogen at planting time; an additional 50 pounds is applied as a side dressing. Approximate yields per acre are 20 to 25 tons of plant cane, 18 to 20 tons of first-year stubble cane, 16 to 18 tons of second-year stubble cane, and 40 to 50 bushels of corn.

Yields of sugarcane can be increased by turning under green-manure crops. In addition, 60 pounds of nitrogen per acre should be applied to plant cane, 100 pounds of nitrogen to stubble cane, and 40 pounds of phosphoric acid and 60 pounds of potash per acre to both plant cane and stubble cane. Approximate yields per acre obtained under this system of management are 30 to 32 tons of plant cane, 25 to 28 tons of first-year stubble cane, and 20 to 24 tons of second-year stubble cane.

Corn should yield between 65 and 75 bushels per acre if it is fertilized with 50 pounds of nitrogen, 40 to 50 pounds of available phosphoric acid, and 60 pounds of potash per acre at planting time and sidedressed with 50 pounds of nitrogen.

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[4] The amount of fertilizer needed as expressed in the amount of available nitrogen, phosphoric acid (P_2O_5), and potash (K_2O).

[5] LOUISIANA AGRICULTURAL EXPERIMENT STATION. FERTILIZER RECOMMENDATIONS FOR LOUISIANA. [Mimeographed.] 1954–55.

Pastures are commonly fertilized with 1 ton of agricultural lime per acre and 200 pounds of a complete fertilizer. Yields of improved pasture can be increased by applying an additional 60 to 100 pounds of available phosphoric acid (P_2O_5) and 50 pounds of available potash (K_2O) per acre.

Management group II–2

The soils of group II–2 are medium textured, imperfectly drained or moderately well drained, and moderately permeable. They are level or nearly level and have slopes of less than 1 percent. These soils occur along the borders of the natural levee ridges. Consequently, they receive much runoff water from higher areas. Surface runoff is slow.

Most of the soils have a friable surface layer and subsoil. The organic-matter content ranges from medium to high. Most of the soils are well supplied with calcium, phosphorus, and magnesium but are low in potassium. In reaction, they are typically slightly acid to mildly alkaline. The following soils are in management group II–2:

Jeanerette silt loam.
Jeanerette silt loam, thin solum phase.
Jeanerette silty clay loam, thin solum phase.
Jeanerette-Iberia very fine sandy loams.

Use and management.—The soils of management group II–2 are good to excellent for row crops. They are also suited to pasture and hay. In some small spots, where many lime concretions occur on or near the surface, crop yields are commonly low. As for the soils of group II–1, the principal management problems consist of removing excess surface water promptly and keeping the soil fertile.

The management practices generally used on these soils are similar to those used on soils of management group II–1. Average yields per acre under common management are 25 to 30 tons of plant cane, 20 to 28 tons of first-year stubble cane, 18 to 20 tons of second-year stubble cane, and 65 bushels of corn.

Yields can be increased by applying larger amounts of nitrogen, phosphoric acid, and potash than are commonly used and by improving the drainage. If 60 pounds of nitrogen per acre is applied to plant cane and 100 pounds to stubble cane, in addition to 25 to 40 pounds of phosphoric acid and 60 pounds of potash to both plant cane and stubble cane, the approximate yields per acre should be 32 to 35 tons of plant cane, 28 to 32 tons of first-year stubble cane, and 20 to 25 tons of second-year stubble cane.

Corn yields can be increased by turning under green-manure crops, by applying 300 to 400 pounds of a complete fertilizer and 50 pounds of nitrogen per acre at planting time, and by sidedressing with 50 pounds of nitrogen per acre. Under this management, corn should yield 75 to 85 bushels per acre.

Management group II–3

The soils of group II–3 are medium textured to moderately fine textured, imperfectly drained to poorly drained, and slowly permeable. The areas are level to nearly level and have slopes of less than 1 percent. These soils receive moderate amounts of runoff water from soils at higher elevations. Surface runoff and internal drainage are slow.

These soils have a moderately friable surface soil and a clay subsoil. They contain moderate amounts of organic matter and are well supplied with most plant nutrients. In general, the reaction is slightly acid to mildly alkaline. The following soils are in management group II–3:

Baldwin silty clay loam.
Iberia silt loam.
Iberia silty clay loam.
Iberia silty clay loam, thin solum phase.

Use and management.—Group II–3 is made up of good agricultural soils that are used mainly to grow sugarcane, corn, and soybeans. Under proper management the soils can be used for rice, hay, and pasture.

The management commonly used for soils of this group is similar to that used for soils of group II–1, and under common management, yields are about the same. The yields can be increased by using larger amounts of a complete fertilizer than are commonly used and by adding larger amounts of nitrogen.

Management group III–1

The soils of this group are medium textured and are moderately well drained to imperfectly drained. They occupy slopes of 2 to 5 percent. The soils are severely eroded. The erosion has been caused, in part, by the common practice of running crop rows with the slope. The soils are fair to good for agriculture, but each soil has at least one undesirable characteristic that limits its suitability.

The surface layer of these soils is friable to moderately friable. Tilth is good, and the soils can be cultivated over a fairly wide to wide range of moisture content. Crops are sometimes damaged by drought during occasional dry spells. The soils are slightly acid to strongly acid in reaction. They contain fair amounts of organic matter and other plant nutrients. The following soils are in management group III–1:

Buxin-Portland-Perry soils, gently sloping phases.
Cypremort silty clay loam, eroded phase.
Patoutville very fine sandy loam, eroded gently sloping phase.

Use and management.—Most of the acreage is used to grow sugarcane, corn, and soybeans, but these soils are not so productive as the soils of management groups II–1, II–2, and II–3. The principal management problems are concerned with controlling erosion and keeping the soil fertile.

A 4-year rotation consisting of 3 years of sugarcane followed by either 1 year of corn or by 1 year of soybeans is commonly used. Generally, 40 pounds of nitrogen per acre is applied to plant cane, 60 pounds of nitrogen to stubble cane, and 50 pounds of nitrogen to corn. Under these practices, the approximate acre yields are 20 tons of plant cane, 14 to 18 tons of stubble cane, and 40 to 50 bushels of corn.

Yields of sugarcane can be increased by tilling on the contour, plowing under green-manure crops, applying potash and phosphate fertilizers, and adding larger amounts of nitrogen. If 60 to 80 pounds of nitrogen per acre is added to plant cane, 100 pounds of nitrogen to stubble cane, and 40 pounds of phosphoric acid and 60 pounds of potash per acre to both plant cane and stubble cane, plant cane should yield about 25 tons per acre, first-year stubble cane 20 tons, and second-year stubble cane 16 to 18 tons.

Yields of corn can be increased by tilling on the contour, plowing under green-manure crops, applying 300 to 400 pounds of a complete fertilizer and 50 pounds of nitrogen per acre at planting time, and side dressing the crop with

50 pounds of nitrogen per acre. Under this treatment, corn should yield 55 to 65 bushels per acre.

If well managed, improved pastures on these soils produce good to excellent yields. Agricultural lime and a complete fertilizer should be added to the pastures.

Management group III–2

The soils of group III–2 are fine textured, imperfectly drained, and slowly to very slowly permeable. They are level or nearly level. The soils receive moderate amounts of runoff water from higher lying areas. Surface runoff and internal drainage are very slow. In general, tilth ranges from fair to poor. The following soils are in management group III–2:

Baldwin silty clay.
Baldwin silty clay, compacted phase.
Baldwin silty clay loam, compacted phase.

Use and management.—Of the soils of this group, only Baldwin silty clay is used to grow row crops. Baldwin silty clay, compacted phase, and Baldwin silty clay loam, compacted phase, are used to grow rice. The soils used for rice have a dense, puddled, plastic clay subsoil.

Rice is commonly grown in either a 2-year rotation, consisting of 1 year of rice and 1 year of fallow, or in a 3-year rotation, consisting of 2 years of rice and 1 year of fallow. Some planters apply 200 pounds of a complete fertilizer per acre to rice. Under these management practices, the approximate yields of rice are between 10 and 15 barrels per acre.

Yields of rice can be increased by applying larger amounts of fertilizer and by using a rotation that consists of 1 year of rice, 2 or 3 years of improved pasture, and then 2 years of rice. If the rice is fertilized with 40 to 60 pounds of nitrogen, 30 to 40 pounds of phosphoric acid, and 20 to 40 pounds of potash per acre at planting time and is topdressed with 40 pounds of nitrogen, it should yield from 18 to 28 barrels per acre.

Baldwin silty clay is artificially drained and used for row crops. Open ditches and row drainage are used to remove the excess surface water. The ditches also serve to divert the runoff from higher lying areas. The sugarcane is commonly grown in a 4-year rotation consisting of 3 years of sugarcane followed by 1 year of corn or by 1 year of soybeans. The usual practice is to apply 40 pounds of nitrogen per acre to plant cane and 60 pounds of nitrogen to stubble cane. The approximate acre yields with the common management are 18 to 20 tons of plant cane, 16 to 18 tons of first-year stubble cane, and 12 to 16 tons of second-year stubble cane.

Corn usually receives applications of 50 pounds of nitrogen per acre. Yields are commonly 30 to 40 bushels per acre.

If the soils of group III–2 are used for row crops, they require more intensive management for profitable yields than the soils of group III–1. Management practices needed to improve soil drainage and soil structure when these soils are used for row crops include (1) use of row drainage and lateral ditches that are closely spaced, properly constructed, and well maintained; (2) plowing under deep-rooted crops for green manure; and (3) using a cropping system that will include 2 or 3 years of improved pasture to be followed by sugarcane or corn.

If these improved management practices are used and if 60 to 80 pounds of nitrogen per acre is applied to plant cane, 100 pounds of nitrogen to stubble cane, and 40 pounds of available phosphoric acid (P_2O_5) and 60 pounds of available potash (K_2O) to both plant and stubble cane, the yields per acre can be increased to about 25 tons of plant cane, 18 to 20 tons of first-year stubble cane, and 18 tons of second-year stubble cane.

Yields of corn can be increased also under good management that includes the practices mentioned to improve soil drainage and soil structure. In addition, if 300 to 400 pounds of a complete fertilizer and 50 pounds of nitrogen per acre are applied to corn at planting time and 50 pounds of nitrogen is applied as a side dressing, the approximate yields per acre should be 40 to 50 bushels.

When adequately drained and properly fertilized with complete fertilizer and lime, the soils of group III–2 produce very good pasture and hay.

Management group III–3

The soils of group III–3 are fine textured, poorly drained, and slowly permeable to very slowly permeable. They receive runoff from higher lying areas. The excess water runs off the surface at a moderate rate but passes through the soil very slowly because, in most areas, the surface soil and subsoil are compacted and puddled. Tilth, although generally poor, is suitable within a narrow range of moisture content. The following soils are in management group III–3:

Iberia clay.
Iberia clay, compacted phase.
Iberia clay, thin solum phase.
Iberia clay, compacted, thin solum phase.

Use and management.—Iberia clay and Iberia clay, thin solum phase, which are drained by row drainage and lateral ditches, are used to grow sugarcane and corn. The two compacted Iberia soils are used to grow rice. The commonly used management practices, the suggested improvements, and the corresponding yields of rice and pasture crops on these soils are similar to those of the soils of group III–2.

The soils that are used for row crops occur at lower elevations and require more intensive artificial drainage than soils of group III–2. Yields can be increased by providing closely spaced ditches and row drainage and by plowing under green-manure crops. The kinds and amounts of fertilizer that are suggested for increases in yields of row crops grown on the soils of group III–2 are suitable for the soils of group III–3. Sugarcane yields, however, probably will be lower for these soils than for the soils of group III–1.

When adequately drained, these soils produce very good pasture and hay.

Management group III–4

The soils of group III–4 are fine textured to medium textured, poorly drained to very poorly drained, and slowly permeable. They are level or depressed and as a result receive runoff water from higher lying areas. These soils occupy the borders of marshes and swamps. Because they occur at low elevations, the soils are difficult to drain and the water table is at or near the surface most of the time. The following soils are in management group III–4:

Alligator clay.
Baldwin silt loam, salty variant.

Use and management.—These soils are used to grow row crops and rice, and yields are fair to good. The soils are also suited to pasture and hay.

In areas where these soils are slightly higher than the associated marsh and swamp soils, row drainage and closely spaced ditches will provide suitable drainage for growing row crops. Areas that are almost as low as the marshes are suitable for cultivation only if protected from overflow by levees and if drained by pumps. The crop rotations, the kinds and amounts of fertilizer commonly used, and the usual crop yields obtained on these soils are similar to those described for the soils of management group III–2.

Improved management consists of using practices described under group III–2 and, in addition, intensive and special drainage practices. If these management suggestions are followed, and if the kinds and amounts of fertilizers described under group III–2 are applied, the approximate yields per acre should be 20 to 25 tons of plant cane, 16 to 20 tons of first-year stubble cane, 14 to 16 tons of second-year stubble cane, 50 bushels of corn, and 15 to 25 barrels of rice.

If adequately drained and properly fertilized, these soils will produce good pasture and hay crops.

Management group V–1

The soils of group V–1 are fine textured to medium textured, poorly drained, and very slowly permeable. They occupy level areas or depressions. The soils occur on low ridges and swamp borders and are either only slightly above areas that are normally overflowed or are protected by dikes against flooding. Surface runoff is very slow, and some areas are frequently ponded. These soils are medium to high in plant nutrients and are medium to low in organic matter. The following soils are in management group V–1:

Alligator clay, overflow phase.
Baldwin silt loam, low phase.
Baldwin silty clay loam, low phase.
Drained marsh, clays.
Sharkey-Alligator clays.

Use and management.—A few small areas of these soils are used to grow rice. The fields are protected by dikes against flooding and are drained by pumps. Large areas, slightly above parts that normally overflow, have a cover of native grass or forest. Most of these large areas could be made suitable for rice and pasture crops if they were protected from overflow and drained by pumps.

Included in management group V–1 are small areas of soils that are well above the areas that are normally flooded. These can be used for row crops in dry years. The kinds and amounts of fertilizer needed and the crop yields produced on these soils are about the same as those described under management group III–2.

Management group V–2

Group V–2 is comprised of fine-textured to medium-textured, poorly drained to moderately well drained soils of the bottom lands. These soils lie within the floodway of the Atchafalaya River and are subject to frequent flooding. Large areas occur between the Wax Lake outlet channel and the Lower Atchafalaya River. Management group V–2 is comprised of the following soils:

Buxin-Portland-Perry soils, level overflow phases.
Local alluvium, poorly drained.
Made land in swamp.
Mixed clay alluvium (overflow phase).
Swamp, clays and mucky clays.

Use and management.—The soils of group V–2 are very fertile, but they are not suited to cultivated crops or to improved pastures unless they are protected against flooding. These soils have dense to scattered stands of mixed hardwoods and are used to produce timber or for hunting and trapping.

Management group VI–1

This management group is made up of deep, moderately well drained, slowly permeable, severely eroded soils that occur on gentle to steep slopes. The slopes range from 5 to 20 percent. These soils have a cover of mixed hardwoods. The soils of management group VI–1 are mapped as a single unit—Richland and Lintonia soils, severely eroded undulating to hilly phases.

Use and management.—These soils are used for seasonal grazing, for forest, or for hunting and trapping. They are not suited to cultivation but are suited to forests and grazing if moderate restrictions, such as controlled grazing, are practiced. Most areas of these soils are subject to severe erosion. Some areas may be disturbed enough to plant trees or to establish permanent pasture.

Management group VII–1

This group is comprised of fine-textured, poorly drained marsh soils that are frequently flooded. The following mapping units are in management group VII–1:

Fresh water marsh, clays and mucky clays.
Made land in marsh.

Use and management.—These land types are used for hunting, trapping, and, in some places, for seasonal grazing. They are not suited to cultivated crops. Although the soils produce excellent native forage, they are somewhat inaccessible, and only small areas are used for grazing. Forest production is limited, because so much water stands on the surface. It may be possible to reclaim these areas for agricultural uses.

Management group VII–2

Group VII–2 is comprised of organic soils of the swamps that have water on or near the surface most of the time. The vegetation consists mainly of a dense stand of tupelogum and cypress trees. Areas located in the southeastern part of the parish, along the northern border of the coastal marsh, are occasionally flooded by brackish, or saline, waters and are not suited to forest. These areas have a thin stand of small trees. These organic soils have surface layers of peat or muck, which range in thickness from 2 to 10 feet. Management group VII–2 is made up of the following mapping units:

Swamp, muck.
Swamp, peat.

Use and management.—These organic soils are used for forest, hunting, trapping, and limited grazing and browsing. They are not suited to cultivated crops. Improved forest management is the principal need. Although forest yields are good, the planting of trees is restricted to the small areas that are not subject to flooding.

Management group VIII–1

This management group is made up of brackish water clays and organic soils of the marshlands. The soils are

frequently flooded and remain wet most of the time. As a rule, the footing is unstable for livestock on the organic soils, but during dry spells some areas dry out enough to support the weight of cattle. When drained, the peat and muck soils dry out and settle at a moderate rate, as much as 6 inches annually, depending on how much the water table is lowered. In most places they are medium to high in sulfates and chlorides. Excessive soil acidity may result if these soils are drained and allowed to oxidize. The following are in management group VIII–1:

Brackish marsh, clays and mucky clays.
Brackish marsh, muck.
Brackish marsh, peat.

Use and management.—This group of organic soils comprise the principal trapping areas in St. Mary Parish (fig. 6). The soils are not suited to cultivation, grazing, or forestry. Areas of Brackish marsh, clays and mucky clays, however, support a dense growth of marsh plants. Most of these areas would provide a considerable amount of forage, if they did not occupy nearly inaccessible sites along the coast.

Occasionally, tides caused by storms are so high that it is not practical to build protective dikes. Favorable habitats for wildlife can be maintained by controlling the depth and salinity of the waters that encroach on these areas.

***Figure 6.*—Muskrat house at Cypremort Point, typical of wildlife habitats on Brackish marsh, muck, and Brackish marsh, peat. The vegetation is three-square.**

Suitability of the Soils for Rice

In this section the soils and miscellaneous land types of St. Mary Parish are arranged in groups according to their relative suitability for rice.

GROUP A: SOILS WELL SUITED TO RICE WITH SIMPLE ARTIFICIAL DRAINAGE

The soils of this group are medium textured to moderately fine textured, imperfectly drained, and slowly permeable. They are level to nearly level and are adequately drained by widely spaced ditches. The following soils are in group A:

Baldwin very fine sandy loam.
Baldwin silt loam.
Baldwin silt loam, compacted phase.
Baldwin silt loam, dark-colored surface phase.
Baldwin silty clay loam.
Baldwin silty clay loam, compacted phase.
Buxin-Portland-Perry soils, nearly level phases.
Iberia silt loam.
Iberia silty clay loam.
Iberia silty clay loam, thin solum phase.
Made land (Portland and Perry soil materials).
Patoutville very fine sandy loam, level phase.
Patoutville silt loam.

GROUP B: SOILS MODERATELY WELL SUITED TO RICE WITH MODERATE ARTIFICIAL DRAINAGE

These soils are fine textured, poorly drained, and very slowly permeable. Because they occupy level areas at low elevations, they require a complex system of open ditches for adequate drainage. The following soils make up group B:

Alligator clay.
Baldwin silty clay.
Baldwin silty clay, compacted phase.
Iberia clay.
Iberia clay, thin solum phase.
Iberia clay, compacted phase.
Iberia clay, compacted, thin solum phase.

GROUP C: SOILS MODERATELY WELL SUITED TO RICE WITH INTENSIVE ARTIFICAL DRAINAGE AND PROTECTIVE STRUCTURES

This group consists of fine-textured, poorly drained and very poorly drained, very slowly permeable soils and medium-textured, poorly drained, slowly permeable soils. The soils occupy level areas at low elevations, so they require protective levees, and water must be removed by pumps. The following soils are in group C:

Alligator clay, overflow phase.
Baldwin silt loam, low phase.
Baldwin silt loam, salty variant.
Baldwin silty clay loam, low phase.
Drained marsh, clays.
Sharkey-Alligator clays.

GROUP D: SOILS NOT SUITED TO RICE

These soils are medium textured, moderately well drained, and moderately permeable. They occupy level to steep areas of the terraces, as well as level bottom lands, swamps, and marshes that are frequently flooded. The following soils are in group D:

Brackish marsh, clays and mucky clays.
Brackish marsh, muck.
Brackish marsh, peat.
Buxin-Portland-Perry soils, gently sloping phases.
Buxin-Portland-Perry soils, level overflow phases.
Cypremort very fine sandy loam.
Cypremort silt loam.
Cypremort silty clay loam, eroded phase.
Fresh water marsh, clays and mucky clays.
Jeanerette silt loam.
Jeanerette silt loam, thin solum phase.
Jeanerette silty clay loam, thin solum phase.
Jeanerette-Iberia very fine sandy loams.
Local alluvium, poorly drained.
Made land in marsh.
Made land in swamp.
Mixed clay alluvium (overflow phase).
Patoutville very fine sandy loam, eroded gently sloping phase.
Richland and Lintonia soils, severely eroded undulating to hilly phases.
Swamp, clays and mucky clays.
Swamp, peat.
Swamp, muck.

Suitability of the Soils for Improved Pasture

In this section the soils and miscellaneous land types are arranged in groups according to their relative suitability for improved pasture.

GROUP A: SOILS SUITED TO IMPROVED PASTURE WITHOUT ARTIFICIAL DRAINAGE OR WITH SIMPLE ARTIFICIAL DRAINAGE

This group is made up of medium-textured, moderately permeable, imperfectly drained and moderately well drained soils that occupy level to gently sloping areas. The following soils are in group A:

Baldwin very fine sandy loam.
Baldwin silt loam.
Baldwin silt loam, dark-colored surface phase.
Buxin-Portland-Perry soils, gently sloping phases.
Buxin-Portland-Perry soils, nearly level phases.
Cypremort very fine sandy loam.
Cypremort silt loam.
Cypremort silty clay loam, eroded phase.
Patoutville very fine sandy loam, eroded gently sloping phase.

GROUP B: SOILS SUITED TO IMPROVED PASTURE WITH MODERATE ARTIFICIAL DRAINAGE

These soils are medium textured to moderately fine textured, imperfectly drained, and slowly permeable. They occupy level or nearly level areas. For improved pasture, the soils require ditch drainage. The following soils are in group B:

Baldwin silt loam, compacted phase.
Baldwin silt loam, salty variant.
Baldwin silty clay loam.
Baldwin silty clay loam, compacted phase.
Iberia silt loam.
Iberia silty clay loam.
Iberia silty clay loam, thin solum phase.
Jeanerette silt loam.
Jeanerette silt loam, thin solum phase.
Jeanerette silty clay loam, thin solum phase.
Jeanerette-Iberia very fine sandy loams.
Made land (Portland and Perry soil materials).
Patoutville very fine sandy loam, level phase.
Patoutville silt loam.

GROUP C: SOILS SUITED TO IMPROVED PASTURE WITH COMPLEX ARTIFICIAL DRAINAGE

This group consists of fine-textured, slowly permeable and very slowly permeable, imperfectly drained and poorly drained soils. They occupy level to nearly level areas. For proper drainage, the soils require cut crowning and ditch drainage. The following soils are in group C:

Alligator clay.
Baldwin silty clay.
Baldwin silty clay, compacted phase.
Iberia clay.
Iberia clay, compacted phase.
Iberia clay, thin solum phase.
Iberia clay, compacted, thin solum phase.
Sharkey-Alligator clays.

GROUP D: SOILS SUITED TO IMPROVED PASTURE WITH EITHER COMPLEX ARTIFICIAL DRAINAGE, INCLUDING PROTECTIVE LEVEES, OR EROSION CONTROL PRACTICES

The soils of this group are medium textured, moderately fine textured, or fine textured; poorly drained to moderately well drained; and very slowly permeable to slowly permeable. Except for the Richland and Lintonia soils, which are undulating to hilly, these soils are level and occur at low elevations. The level areas require ditch drainage, protective levees, and the removal of water by pumps. On the Richland and Lintonia soils, control of erosion is necessary. The following soils are in group D:

Alligator clay, overflow phase.
Baldwin silt loam, low phase.
Baldwin silty clay loam, low phase.
Drained marsh, clays.
Richland and Lintonia soils, severely eroded undulating to hilly phases.

GROUP E: SOILS NOT SUITED TO IMPROVED PASTURE

In this group are fine-textured or medium-textured, poorly drained and imperfectly drained, frequently flooded soils of the bottom lands and marshes. The following soils are in group E:

Brackish marsh, clays and mucky clays.
Brackish marsh, muck.
Brackish marsh, peat.
Buxin-Portland-Perry soils, level overflow phases.
Fresh water marsh, clays and mucky clays.
Local alluvium, poorly drained.
Made land in marsh.
Made land in swamp.
Mixed clay alluvium (overflow phase).
Swamp, clays and mucky clays.
Swamp, muck.
Swamp, peat.

Formation and Classification of Soils

Soils are formed by the action of certain processes on materials deposited or accumulated by geologic action. The characteristics of the soil at any given point are determined by (1) the type of parent material; (2) the climate under which the soil material has accumulated and existed since it accumulated; (3) the plant and animal life in and on the soil; (4) the relief, or lay of the land; and (5) the length of time the forces of soil development have acted on the soil material.

Factors of Soil Formation

All of the five factors of soil formation have influenced the development of the soils of St. Mary Parish. Because the climate is essentially uniform, however, variations in the soils have resulted mainly from the effects of parent material, vegetation, relief, and age.

PARENT MATERIAL

The parent materials of the soils in this area are alluvial in origin, but the source and the texture of the sediments vary. Soils of the Pleistocene terraces consist of silty alluvium washed from other terraces or from loessal uplands.

Other soils occupy the natural levee ridges that have been built up from alluvium deposited by the Mississippi and Red Rivers. Soils of the natural levee ridges vary considerably in texture. The front lands, or crests of the natural levee ridges, are made up of silt and very fine sand, the mixed lands of clay and silty clay, and the back lands of materials ranging from silt loam to clay. The soils of bottom lands are developing from slightly acid to mildly alkaline alluvium. Soils of the coastal marsh are made up of Mississippi River and Red River alluvium. In areas of the coastal marsh near the gulf, the alluvial materials have been reworked by the action of waves and tides.

CLIMATE

St. Mary Parish has a humid, subtropical marine climate. The average summer temperature is about 82° F., and the average winter temperature is about 57° F. The average annual rainfall is nearly 67 inches. The more mature soils that have developed under this climate are highly leached, low in organic matter, and weakly podzolic.

Except for the coastal areas, which have somewhat higher rainfall than areas farther inland, the climate is fairly uniform. Therefore, differences in the soils cannot be attributed to differences in climate.

VEGETATION

The vegetation varies considerably in different parts of the parish. The differences in vegetation have influenced the development of the soils.

The soils that are the most highly leached and the most acid are the ones that have developed under deciduous forest. The deep-rooted plants of the forest bring bases to the surface. The bases are leached out, however, by the water that passes through the soil. The decayed forest litter causes organic acids to form, which hastens the leaching process. As a result the soils are strongly acid and generally low in organic matter. The soils that have developed under prairie grasses are not so severely leached, nor are they leached of bases to so great a depth as the forest soils.

The soils of the coastal marshes have a surface layer that consists of organic materials derived from plants. These plants are mainly grasses, reeds, sedges, rushes, and herbs. As they die they are covered by water, which retards oxidation. The remains of successive generations of plants form peats and mucks that range in thickness from 2 to 11 feet.

RELIEF

Differences in relief have been responsible, to a great extent, for the development of different characteristics in the soils of St. Mary Parish. Relief affects the formation of the soils through its control upon drainage and erosion. The more mature, or better developed, soils have enough slope so that the soils are well drained but are not eroded. These soils have a brown B horizon. The imperfectly drained soils on level or gently sloping areas have a yellow or a yellow, mottled B horizon. The poorly drained soils on level or slightly depressed areas are gray and mottled. Fragipans or clay pans have developed in level or gently sloping silty soils that have yellow or gray B horizons.

AGE

Differences in age account for differences in the characteristics of some of the soils of the delta. Some of the soils of the Mississippi River bottom lands and of the natural levee ridges differ from each other because of age, although they were derived from similar parent materials, have about the same relief, and have, or were developed under, about the same vegetation and climate. The more mature soils of the natural levees display fairly well-defined genetic horizons, but the younger soils on the recent bottom lands show little profile development.

Classification of Soils

The lower categories of soil classification—series, types, and phases—are explained in the section, How a Soil Survey is Made. Briefly, a soil series consists of one or more soil types and a soil type consists of one or more phases. Soil types or phases are the units shown on the detailed soil map.

Soil series are classified into the next broader category, the great soil groups. Each great soil group is made up of soils that have certain internal characteristics in common.

The broadest categories of soil classification is the three soil orders—zonal, intrazonal, and azonal—into which all of the great soil groups are classified.

Table 5 classifies the soil series of St. Mary Parish by great soil groups and soil orders.

TABLE 5.—*Soil series classified by soil orders and great soil groups and some factors that have contributed to differences in their formation*

Great soil group and series	Relief	Internal drainage	Parent material
ZONAL SOILS			
Gray-Brown Podzolic soils:			
Lintonia	Rolling to hilly.	Medium	Silty alluvium derived from loessal areas.
Cypremort	Nearly level to gently sloping.	Medium	Medium-textured alluvium derived from the Mississippi and Red Rivers.
INTRAZONAL SOILS			
Planosols:			
Richland	Undulating to gently sloping.	Medium	Silty alluvium derived from loessal areas.
Patoutville	Level to gently sloping.	Slow	Alluvium predominantly of Mississippi River origin.
Low-Humic Gley soils:			
Alligator	Level to nearly level.	Slow to very slow.	Same.
Baldwin	Level to nearly level.	Slow to very slow.	Mixed alluvium derived from the Mississippi and Red Rivers.
Perry	Level to nearly level.	Slow to very slow.	Same.
Sharkey	Level to nearly level.	Slow to very slow.	Alluvium derived from the Mississippi and Red Rivers.
Humic Gley soils:			
Iberia	Level or depressed.	Slow to very slow.	Alluvium predominantly of Mississippi River origin.
Jeanerette	Level or depressed.	Medium to slow.	Same.
AZONAL SOILS			
Alluvial soils:			
Buxin	Level to gently sloping.	Medium to none.	Recent alluvium derived from the Mississippi and Red Rivers.
Portland	Level to gently sloping.	Medium to none.	Same.

Zonal soils

Soils of the zonal order have well-developed characteristics that reflect the dominating influence of vegetation and climate. In St. Mary Parish the zonal soils have a grayish-brown to brown surface layer and a brown B horizon. In forested areas a 1-inch layer of leaf mold commonly covers the surface. The A_2 horizon of the zonal soils is brown or grayish brown and is well leached of bases. Some of the bases have accumulated in the B horizon. The B horizon is heavier textured than the A horizon and has some accumulation of sesquioxides. The Gray-Brown Podzolic soils are the only zonal soils in the parish.

GRAY-BROWN PODZOLIC SOILS

The Gray-Brown Podzolic soils have a thin organic covering and organic-mineral layers that overlie a grayish-brown leached layer. The leached horizon rests upon a brown illuvial horizon. In St. Mary Parish the Gray-Brown Podzolic soils belong to the Cypremort and Lintonia series.

Lintonia series.—The Lintonia soils are representative of the Gray-Brown Podzolic soils in this parish. They have developed from old silty alluvium washed from loessal uplands or terraces. These soils are well drained. Relief is gently sloping to hilly, and slopes are 5 to 20 percent. Because these soils have developed under deciduous forests and were affected by high temperatures and heavy rainfall, they are leached and weakly podzolic. They have a brown, leached A horizon and a brown, moderately leached, heavier textured B horizon. A considerable amount of colloidal material has moved from the A horizon to the B horizon. The Lintonia soils are moderately permeable. Surface runoff, however, is moderate to rapid, and the soil is severely eroded.

The following is a description of a profile of Lintonia silt loam on Cote Blanche Island:

- A_1[6] 0 to ½ inch, dark grayish-brown (10YR 4/2) [7] decayed or partly decayed forest litter from deciduous trees.
- A_2 ½ to 8 inches, brown (7.5YR 5/4) weak medium to fine granular friable silt loam; medium acid.
- B_2 8 to 26 inches, brown (7.5YR 5/4) friable silty clay loam; moderate medium and fine irregular angular blocky; very strongly acid.
- B_3 26 to 48 inches, yellowish-brown (10YR 5/8) friable silt loam; weak medium granular; very strongly acid.
- C 48 to 62 inches, yellowish-brown (10YR 5/6) compact silt loam with small streaks of gray (10YR 6/1) and brown (7.5YR 5/4); weak medium angular blocky; very strongly acid.

Cypremort series.—The Cypremort series consists of moderately well drained soils. These soils have developed from medium-textured old alluvium derived from the Mississippi and Red Rivers. They have developed under predominantly prairie vegetation. The areas are nearly level to gently sloping and occur on the crests of the natural levee ridges.

The Cypremort soils are not leached of bases to so great a depth as the Lintonia soils. The brown A horizon has been leached of bases and colloidal materials. The brown B horizon has received some colloidal material and bases from the A horizon and is heavier textured than the A. The B horizon is moderately leached, and the C horizon is leached to some extent. The A and B horizons are slightly acid to medium acid, and the underlying parent material ranges from slightly acid to slightly alkaline.

The following is a description of a profile of Cypremort very fine sandy loam located at the DeGravelle plantation, 1¼ miles southwest of the Oaklawn plantation:

- A_p 0 to 6 inches, brown (10YR 5/3) friable very fine sandy loam; weak fine granular; light brownish gray (2.5Y 6/2) when dry; medium acid.
- B_2 6 to 12 inches, uniformly mottled compact sandy clay loam or fine sandy clay; large prominent mottles of light yellowish brown (10YR 6/4) and brownish yellow (10YR 6/8); streaks of dark gray (10YR 4/1); thick medium platy and coarse weak subangular blocky; medium acid.
- B_3 12 to 24 inches, light yellowish-brown (10YR 6/4) friable very fine sandy clay loam; fine prominent mottles and streaks of brownish yellow (10YR 6/6) and dark gray (10YR 4/1), particularly around root channels; massive to weak coarse subangular blocky; slightly acid.
- C 24 to 42 inches, light yellowish-brown (10YR 6/4) friable very fine sandy loam; a few, medium, prominent mottles of light brownish gray (10YR 6/2) and brownish yellow (10YR 6/6); weak subangular blocky; neutral.

Intrazonal soils

Intrazonal soils have fairly well developed characteristics that have been influenced more by some local factor of parent material, relief, or age than by the normal effects of climate and vegetation. The characteristics of the intrazonal soils of St. Mary Parish are generally the result of the level relief and have been greatly influenced by the high or fluctuating water table. In this parish the intrazonal order is represented by the Planosols, Humic Gley, and Low-Humic Gley great soil groups.

PLANOSOLS

The Planosols of this parish have well-developed characteristics. The profiles show the effects of poor drainage resulting from level or nearly level relief and a high or fluctuating water table. The Richland and Patoutville soils belong to the Planosol great soil group.

Richland series.—The Richland soils have developed under the influence of a low degree of slope and a perched or moderately high water table. They are moderately podzolized and have a moderately leached A horizon and a brown, heavier textured B horizon. At depths of 18 to 30 inches, they have a weak fragipan consisting of fine, compact, mottled silt loam or light silty clay loam. The fragipan layer is underlain by the friable, acid parent material of silt loam.

The following is a description of a profile of Richland silt loam observed on Cote Blanche Island:

- A_p 0 to 6 inches, brown (10YR 5/3) friable silt loam; moderate fine granular; medium acid.
- A_3 6 to 12 inches, dark yellowish-brown (10YR 4/4) strong fine granular silt loam; strongly acid.
- B_2 12 to 20 inches, dark yellowish-brown (10YR 4/4) compact silty clay loam; strong medium subangular blocky; very strongly acid.
- B_{3m} 20 to 32 inches, dark yellowish-brown (10YR 4/4) compact firm silt loam or silty clay loam; coarse distinct mottles of gray (10YR 6/1), pale brown (10YR 6/3), and yellowish brown (10YR 5/6); weak medium subangular blocky; very strongly acid.
- C 32 to 42 inches, dark yellowish-brown (10YR 4/4) friable silt loam; a few, coarse, distinct mottles of pale brown (10YR 6/3); weak subangular blocky; strongly acid.

[6] For definitions of horizon symbols, see the Soil Survey Manual, Agriculture Handbook No. 18. For those not especially interested in the technical definitions, the A horizon refers to the surface soil, the B horizon to the subsoil, and the C horizon to the substratum.

[7] Soil Survey color names based on Munsell color charts. Figures in parentheses are Munsell color notations.

Patoutville series.—The Patoutville series is made up of imperfectly drained acid soils that occur on level areas or gentle slopes. The soils have developed from old medium-textured alluvium, predominantly of Mississippi River origin. The vegetation was mainly prairie grasses, but there were small areas of deciduous trees.

The Patoutville soils are moderately podzolic; the A horizon is leached of bases and contains little organic matter. Colloidal material has accumulated in the B horizon, which is heavier textured than the A. The A and B horizons are medium acid to strongly acid.

These soils have a yellowish mottled subsoil because they have developed on level areas and because the water table is moderately high. At depths of about 10 to 20 inches, the soil is compact and contains prominent mottles and brown and black concretions. The C horizon is a friable silty clay loam or silt loam ranging from slightly acid to slightly alkaline in reaction.

The following is a description of a profile of Patoutville silt loam observed 2 miles southeast of the sugar mill at Albania plantation:

- A_1 0 to 4 inches, dark grayish-brown (10YR 4/2) friable silt loam; moderate fine granular; many brown and black, small concretions; medium acid.
- A_2 4 to 7 inches, very dark grayish-brown (10YR 3/2), compact, firm silt loam; many, fine, distinct mottles of yellowish brown (10YR 5/4); moderate to strong thin platy; a few small brown and black concretions; medium acid.
- B_2 7 to 10 inches, uniformly mottled dark yellowish-brown (10YR 4/4) and very dark grayish-brown (10YR 3/2), very firm, dense silty clay loam containing a few fine mottles of strong brown (7.5YR 5/8); moderate medium prismatic structure, but breaks into moderate coarse subangular blocks containing many small brown and black concretions; medium acid.
- B_3 10 to 20 inches, mottled very dark grayish-brown (10YR 3/2), dark yellowish-brown (10YR 4/4), and grayish-brown (10YR 5/2) firm silty clay loam; weak to moderate medium subangular blocky; a few, small, prominent mottles of dark brown (7.5YR 4/4); a few small round concretions; medium acid.
- C 20 to 36 inches, mottled grayish-brown (2.5Y 5/2) and yellowish-brown (10YR 5/6) friable silty clay loam containing scattered small, strong-brown (7.5YR 5/8), hard concretions and a few black concretions; compact and firm; friable and gritty when crushed; weak medium subangular blocky; slightly acid.

LOW-HUMIC GLEY SOILS

The Low-Humic Gley soils are somewhat poorly drained to poorly drained. They have a very thin surface horizon, moderately high in organic matter. This overlies gleyed mineral horizons, mottled with gray and brown. Differences in texture are not clearly defined in these horizons. The soils of the Baldwin, Perry, Sharkey, and Alligator series are the Low-Humic Gley soils of St. Mary Parish.

Baldwin series.—The Baldwin soils are moderately well drained to poorly drained. They have a moderately thin surface soil that contains a moderate amount of organic matter and a mottled gray and brown clay subsoil. These level or nearly level soils occur on the front lands and mixed lands of the natural levee ridges. They have developed from old, slightly acid to mildly alkaline alluvium deposited by the Mississippi and Red Rivers. These soils have formed under a mixed vegetation of prairie grasses and deciduous forest and contain moderate amounts of organic matter. Their genetic horizons are more clearly defined than those of the soils of the bottom lands.

Because of the heavy rainfall and high temperatures, the surface soil has been leached of bases and is slightly acid to medium acid. The clay or silty clay B horizon has been less leached of bases and is slightly acid to neutral. The clay or silty clay loam C horizon ranges from slightly acid to mildly alkaline. A high water table has caused the lower part of the B horizon and the C horizon to be somewhat gleyed.

The following describes an area of Baldwin silt loam one-half mile southwest of the Columbia sugar mill at Katy plantation:

- A_{1p} 0 to 7 inches, very dark grayish-brown (10YR 3/2) friable silt loam; moderate fine granular; medium acid.
- A_{12} 7 to 10 inches, very dark grayish-brown (10YR 3/2) compact silt loam; moderate medium platy; slightly acid.
- B_{21} 10 to 12 inches, very dark gray (10YR 3/1) plastic clay; many small, faint dark yellowish-brown (10YR 4/4) mottles; strong medium platy; slightly acid.
- B_{22} 12 to 18 inches, dark-gray (10YR 4/1) plastic clay mottled with light yellowish brown (10YR 6/4); strong medium angular blocky; neutral.
- B_3 18 to 32 inches, mottled gray (10YR 5/1) and pale-brown (10YR 6/3) sticky and plastic clay; strong medium blocky; mildly alkaline.
- C 32 to 44 inches, light brownish-gray (10YR 6/2) slightly plastic silty clay loam mottled with dark brown (7.5YR 4/4) and dark gray (10YR 4/1); weak medium angular blocky; mildly alkaline.

Sharkey series.—The Sharkey soils of St. Mary Parish have a high water table and therefore have not been affected by the churning caused by shrinking, swelling, and cracking. Although the surface soil is dark, it does not contain large amounts of organic matter; the subsurface layers are distinctly gleyed.

HUMIC GLEY SOILS

The Humic Gley great soil group consists of poorly drained or very poorly drained hydromorphic soils. The soils have moderately thick, dark-colored organic-mineral horizons that are underlain by mineral gley horizons.

In St. Mary Parish the Iberia and Jeanerette soils are in the Humic Gley great soil group. These soils have developed from old alluvium, predominantly of Mississippi River origin (fig. 7). They occupy low areas that had a native cover of marsh or swamp vegetation. The surface soil ranges from very slightly acid to mildly alkaline; the subsoil and parent materials are neutral to mildly alkaline. These soils have developed on sites where the water table was at shallow depths much of the time. This has caused the substratum to become waterlogged and gleyed.

Iberia series.—A description of a profile of Iberia clay, examined at Home Place plantation, 7 miles west of Baldwin, follows:

- A_p 0 to 4 inches, very dark-gray (10YR 3/1) to black (10YR 2/1) plastic silty clay or clay; strong fine granular; neutral.
- A_3 4 to 10 inches, very dark-gray (10YR 3/1) compact silty clay; moderate medium platy and moderate medium angular blocky; neutral.
- B_2 10 to 22 inches, very dark-gray (10YR 3/1) strong medium angular blocky clay with a few, fine, distinct mottles of brown (10YR 5/3) and light yellowish brown (10YR 6/4) in the lower part; moderately alkaline.
- B_3 22 to 28 inches, dark-gray (10YR 4/1) plastic clay mottled with pale brown (10YR 6/3), yellowish brown (10YR 5/4), and brown (10YR 5/3); strong medium angular blocky; a few small, round, soft concretions of iron, and a few irregular soft or hard concretions of lime, one-half inch in diameter; moderately alkaline.

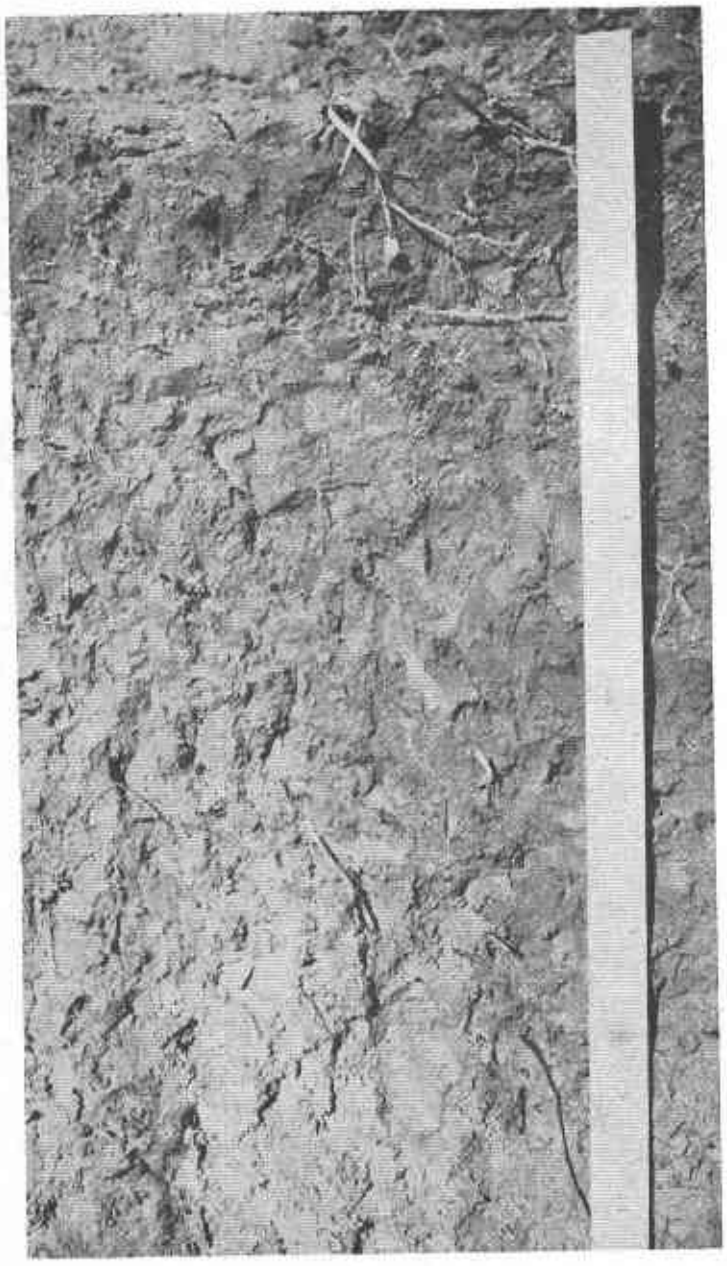

Figure 7.—**Profile of Jeanerette silt loam, thin solum phase, observed at the Alice B. plantation in the southwestern part of the parish.**

C 28 to 44 inches, light yellowish-brown (10YR 6/4) friable silty clay loam mottled with light brownish gray (10YR 6/2); coarse mottles and veins of gray and dark gray; massive to weak prismatic; a few concretions of lime; moderately alkaline.

Azonal soils

The azonal soils lack distinct, genetically related horizons commonly because of youth, resistant parent material, or steep topography. In St. Mary Parish, the Alluvial soils belong to the azonal order.

ALLUVIAL SOILS

The soils of this great soil group occur on bottom lands where recurrent floods have deposited sediments. New sediments are deposited from time to time, so the soils show little or no profile development. Because the parent materials vary, the color of the soils varies somewhat from place to place. In this parish the soils of the Portland and Buxin series belong to the Alluvial great soil group.

Portland series.—In St. Mary Parish, the Portland soils have not been separated from the Buxin and Perry soils in mapping because the areas were too small and intricately mixed. The color of the Portland soils is more grayish or grayish brown than that of the Buxin soils. A description of a profile of Portland clay, observed between the channel of Bayou Teche and United States Highway 90 near the Iberia Parish line, follows:

A_p 0 to 6 inches, dark-brown (10YR 4/3) clay; strong medium and fine granular; slightly acid to neutral.

C_1 6 to 18 inches, strong-brown (7.5YR 5/6) clay faintly mottled with gray and brown; massive; neutral.

C_2 18 to 36 inches, strong-brown (7.5YR 5/6) clay with medium and coarse prominent gray mottles; massive; calcareous.

Organic soils and miscellaneous land types

The organic soils and miscellaneous land types in this parish were not classified into higher categories. A list of the ones that occur in St. Mary Parish follows:

Brackish marsh, clays and mucky clays.
Brackish marsh, muck.
Brackish marsh, peat.
Drained marsh, clays.
Fresh water marsh, clays and mucky clays.
Local alluvium, poorly drained.
Made land in marsh.
Made land in swamp.
Made land (Portland and Perry soil materials).
Mixed clay alluvium (overflow phase).
Swamp, clays and mucky clays.
Swamp, muck.
Swamp, peat.

Laboratory Determinations

Data obtained through laboratory analyses of the soil profiles are shown for the soil types in table 6 and for miscellaneous land types in table 7.

TABLE 6.—*Exchangeable cations, base saturation, pH, and available phosphorus of certain representative soil types* [1]

Soil type and sample number	Horizon	Depth	Exchangeable cations in Me. per 100 gm. of air-dry soil						Base saturation	pH	Available phosphorus
			Ca	Mg	K	Na	H	Total			
Baldwin silt loam:		*Inches*							*Percent*		*P. p. m.*[2]
87	A_p	0–7	10.6	3.3	0.1	0.3	3.6	17.9	80	5.9	84
88	A_3	7–10	12.5	4.2	.1	.2	3.4	20.4	83	6.1	47
89	B_1	10–12	18.2	7.1	.2	.3	3.6	29.4	88	6.4	6
90	B_2	12–18	18.4	8.3	.2	.4	3.9	31.2	88	6.6	9
91	B_3	18–32	17.2	8.4	.3	.4	1.5	27.8	95	6.9	72
92	C	32–44	16.7	9.6	.3	.4	1.4	28.4	95	6.8	153
Cypremort very fine sandy loam:											
666	A_p	0–4	6.0	2.1	.4	.2	4.5	13.2	66	5.4	6
667	A_{an}	4–10	6.3	2.8	.4	.2	4.4	14.1	69	5.6	4
668	B_2	10–16	9.8	5.1	.3	.4	3.1	18.7	87	5.7	1
669	B_3	16–24	7.4	3.8	.2	.5	1.6	13.5	88	6.4	9
670	C	24–42	6.0	4.6	.3	.6	1.7	13.2	87	6.6	12
Iberia silty clay loam:											
11	A_p	0–7	18.7	4.0	.5	.3	1.6	25.1	94	6.8	105
12	A_{an}	7–11	18.9	4.0	.3	.4	1.3	24.9	95	7.0	72
13	B_{21}	11–13	20.6	5.0	.4	.5	1.3	27.8	95	6.8	9
14	B_{22}	13–26	17.7	5.4	.5	.5	1.1	25.2	96	6.8	10
15	B_3	26–40	15.2	5.4	.5	.4	1.1	22.6	95	6.7	205
Jeanerette silt loam:											
687	A_p	0–6	9.8	4.2	.1	.3	0	14.4	100	7.8	94
688	B_{21}	6–16	17.6	5.9	.1	.5	0	24.1	100	8.0	39
689	B_{22}	16–24	12.9	5.7	.1	.3	0	19.0	100	8.1	58
690	B_3	24–30	13.2	5.9	.1	.5	0	19.7	100	8.2	200
691	C	30–42	12.7	5.9	.1	.4	0	19.1	100	8.1	240
Patoutville silt loam:											
681	A_p	0–4	9.4	2.1	.2	.2	3.8	15.7	76	6.1	7
682	A_{an}	4–7	8.3	2.3	.1	.3	3.6	14.6	76	6.1	2
683	B_{21}	7–10	12.5	4.1	.1	.4	3.4	20.5	83	6.2	1
684	B_{22}	10–20	9.4	5.7	.2	1.0	2.3	18.6	88	6.6	1
685	B_3	20–36	7.5	5.6	.2	.9	1.5	15.7	90	7.0	2
686	C	36–48	10.0	5.8	.1	1.2	1.4	18.5	92	7.0	4

[1] Chemical analyses made by B. N. Driskell, associate agronomist, Louisiana Agricultural Experiment Station, Baton Rouge, La.

[2] P. p. m.=Parts per million.

TABLE 7.—*Soil pH, water soluble salts, organic matter, and nitrogen content of clays, mucks, and peats of marsh and swamp areas*

Land type and sample number	Depth	pH	Water soluble salts [1]						Organic matter	Nitrogen	C/N ratio
			Ca	K	Na	SO_4	NaCl	Total salts			
Fresh water marsh, clays and mucky clays:	*Inches*		*P. p. m.* [2]	*P. p. m.* [2]	*P. p. m.* [2]	*P. p. m.* [2]	*Percent*	*Percent*	*Percent*	*Percent*	
15–A	0– 24	6. 6	0	20	800	60	0. 17	0. 17	2. 41	0. 12	11. 82
15–B	24– 40	7. 2	10	20	830	30	. 18	. 18	1. 25	. 08	9. 40
Swamp, clays and mucky clays:											
64–A	0– 12	6. 1	20	10	150	210	. 03	. 06	6. 25	. 28	13. 02
64–B	12– 48	5. 2	100	40	220	840	. 03	. 15	11. 63	. 43	15. 84
Swamp, muck:											
29–A	0– 18	4. 9	0	0	280	210	. 06	. 09	15. 99	. 61	15. 25
29–B	18– 48	5. 1	0	0	140	70	. 02	. 03	1. 55	. 07	12. 49
32–A	0– 48	5. 6	200	30	200	910	. 04	. 17	20. 93	. 68	17. 87
Brackish marsh, peat:											
85–A	0– 96	5. 6	1, 180	360	10, 570	2, 100	3. 21	3. 51	82. 09	2. 04	23. 37
85–B	96–108	5. 5	230	310	7, 120	3, 780	1. 67	2. 21	15. 78	. 33	27. 95
91–A	0– 96	5. 7	840	310	8, 920	3, 850	2. 48	3. 03	68. 06	1. 95	20. 27
Swamp, peat:											
31–A	0– 48	5. 0	380	70	530	2, 520	. 10	. 46	53. 04	1. 74	17. 68
31–B	48– 96	5. 1	20	90	770	420	. 16	. 22	88. 78	2. 80	18. 41
89–A	0– 60	5. 6	220	170	3, 960	3, 640	1. 00	1. 52	78. 35	2. 46	18. 49
89–B	60– 96	5. 8	110	80	1, 430	30	. 38	. 38	13. 48	. 36	21. 52

[1] Water-soluble salt values are based on air-dry weight. Determinations made in the field by a modified Wheatstone bridge show lower values, particularly for peats and mucks.

[2] P. p. m. = Parts per million.

Literature Cited

(1) BROWN, CLAIR A.
1936. THE VEGETATION OF THE INDIAN MOUNDS, MIDDENS, AND MARSHES IN PLAQUEMINES AND ST. BERNARD PARISHES. La. Dept. of Conserv. Geol. Bul. No. 8. 423–440, illus.

(2) DACKNOWSKI-STOKES, A. P.
1940. STRUCTURAL CHARACTERISTICS OF PEAT AND MUCK. Soil Sci. 50: 389–397, illus.

(3) EYLES, DON E., ROBERTSON, J. LYNN, Jr., and JEX, GARNET W.
1944. A GUIDE AND KEY TO THE AQUATIC PLANTS OF THE SOUTHEASTERN UNITED STATES. U. S. Public Health Serv. Bul. 286. 151 pp., illus.

(4) FASSETT, NORMAN C.
1940. A MANUAL OF AQUATIC PLANTS. 382 pp., illus. New York.

(5) FISK, HAROLD N.
1945. GEOLOGICAL INVESTIGATIONS OF THE ALLUVIAL VALLEY OF THE LOWER MISSISSIPPI RIVER . . . DECEMBER, 1944. [Vicksburg, Mississippi River Commission.] 78 pp. and atlas of 27 pl.

(6) LOUISIANA STATE DEPT. of PUBLIC WORKS and ST. MARY PARISH PLANNING BOARD.
1949. RESOURCES AND FACILITIES OF ST. MARY PARISH, LOUISIANA. 135 pp., illus.

(7) LYTLE, S. A. and DRISKELL, B. N.
1954. PHYSICAL AND CHEMICAL CHARACTERISTICS OF THE PEATS, MUCKS AND CLAYS OF THE COASTAL MARSH AREA OF ST. MARY PARISH, LOUISIANA. La. Bul. 484, 37 pp., illus.

(8) PENFOUND, WILLIAM T. and HATHAWAY, EDWARD S.
1938. PLANT COMMUNITIES IN THE MARSHLANDS OF SOUTHEASTERN LOUISIANA. Ecol. Monog. 8: 1–56, illus.

(9) SITTERSON, J. CARLYLE.
1953. SUGAR COUNTRY; THE CANE SUGAR INDUSTRY IN THE SOUTH, 1753–1950, 414 pp. Lexington, Ky.

(10) VEATCH, A. C.
1899. THE FIVE ISLANDS. Geol. of La., Spec. Rpt. 3., pp. 213–262, illus. Baton Rouge.

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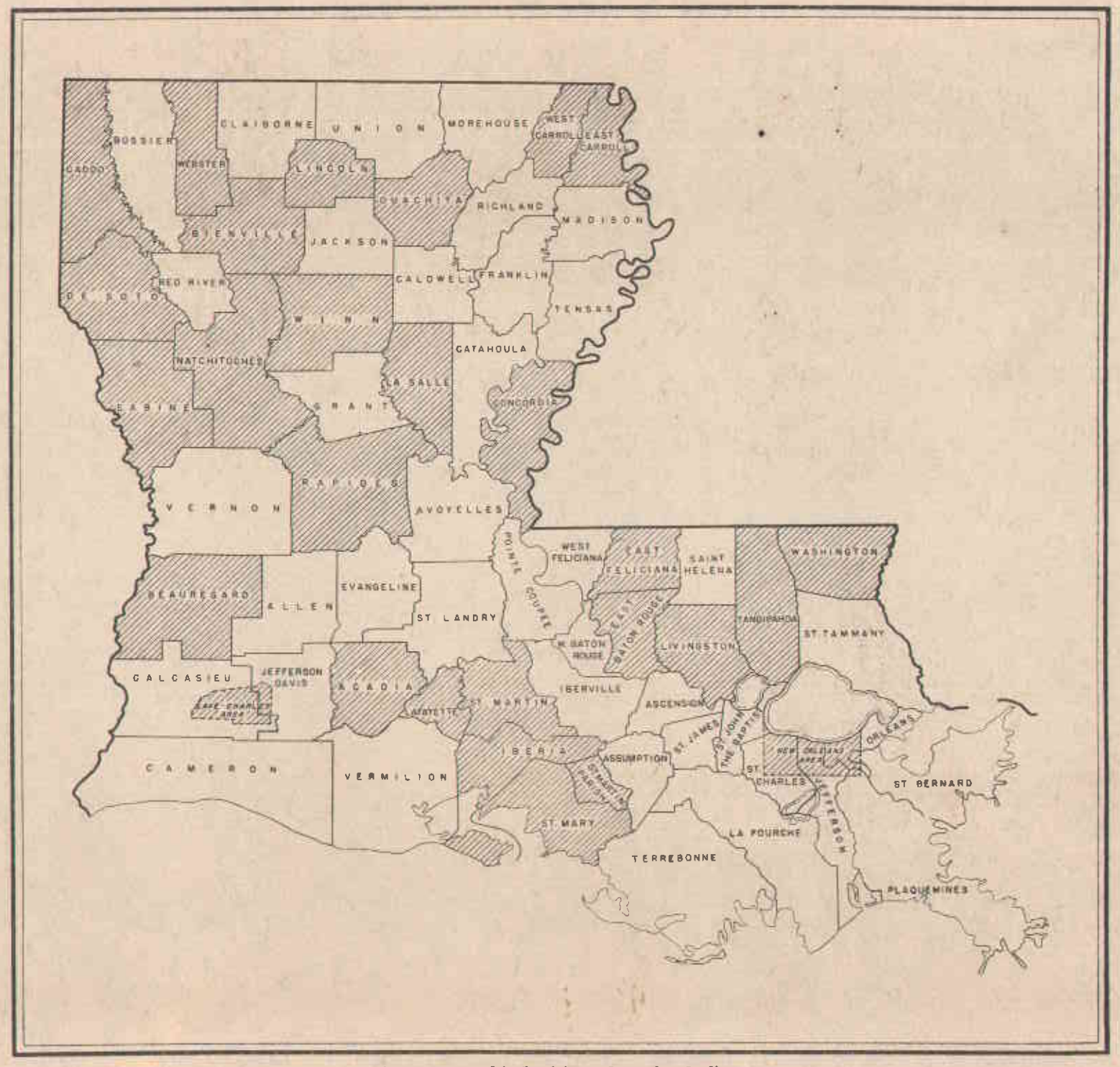


Areas surveyed in Louisiana shown by shading.

SOIL ASSOCIATION MAP

ST. MARY PARISH, LOUISIANA

1 0 1 2 3 4 5 MILES

LEGEND

1 Silty soils, gently sloping to steep, over salt domes: Richland and Lintonia soils.

2 Silty and loamy acid soils on low terraces: Petoutville.

3 Silty, loamy, and clayey slightly acid soils on low Mississippi River terraces: Baldwin, Iberia, Cypremort, Jeanerette.

4 Soils of the bottom lands; Swamp, clays and mucky clays; Buxin-Portland-Perry soils; Mixed clay alluvium.

5 Organic soils and clays of the marshes.

6 Organic soils of the swamps.

N

IBERIA PARISH

ST. MARTIN PARISH

ASSUMPTION PARISH

TERREBONNE PARISH

LAKE FAUSSE POINTE

GRAND LAKE

SIX MILE LAKE

FLAT LAKE

LAKE PALOURDE

WEST COTE BLANCHE BAY

EAST COTE BLANCHE BAY

BAYOU SALE BAY

ATCHAFALAYA BAY

JAWS OR LITTLE BAY

Albania

Sorrel

Adeline

Charenton

Cayeland

Baldwin

Oaklawn

Miller Point

Home Place

Glencoe

Ivanhoe

Florence

Cypremort

Louisa

FRANKLIN

Cote Blanche Island

Marone Point

Pt. No Point

Pt. Chevreuil

PATTERSON

BERWICK ISLAND

BERWICK

MORGAN CITY

TIGER ISLAND

Wyandotte

Ramos

AVOCA ISLAND

BATEMAN ISLAND

Belle Isle

Shell Island

Shell Island Pass

Mud Lake

Hog Bayou

Big Dorris B.

Chicken Island Bayou

Lake Palourde

Bateman Lake

SWEET BAY LAKE

WAX LAKE

Wax Lake Outlet

Little Wax

Lake Salvador

Cheffe Lake

Lake Pass

Hayes B.

Bayou Sale

Bayou Cheffe

Bayou Chene

Intracoastal Waterway

Iberia-St. Mary Canal

Southern Pacific

Charenton Drainage & Navigation Canal

Franklin Canal

Atchafalaya Outlet

Lower Atchafalaya River

Teche Bayou

Bayou Sorrel

Bayou Cypremort

Bayou Teche

Bayou Sale

Bayou Chene

Bayou Cheffe

Roeuf B.

Bayou

Lake

River

T. 13 S.

T. 14 S.

T. 15 S.

T. 16 S.

T. 17 S.

R. 6 E.

R. 7 E.

R. 8 E.

R. 9 E.

R. 10 E.

R. 11 E.

R. 12 E.

R. 13 E.

91°50'

91°45'

91°40'

91°35'

91°30'

91°25'

91°20'

91°15'

91°10'

91°05'

29°55'

29°50'

29°45'

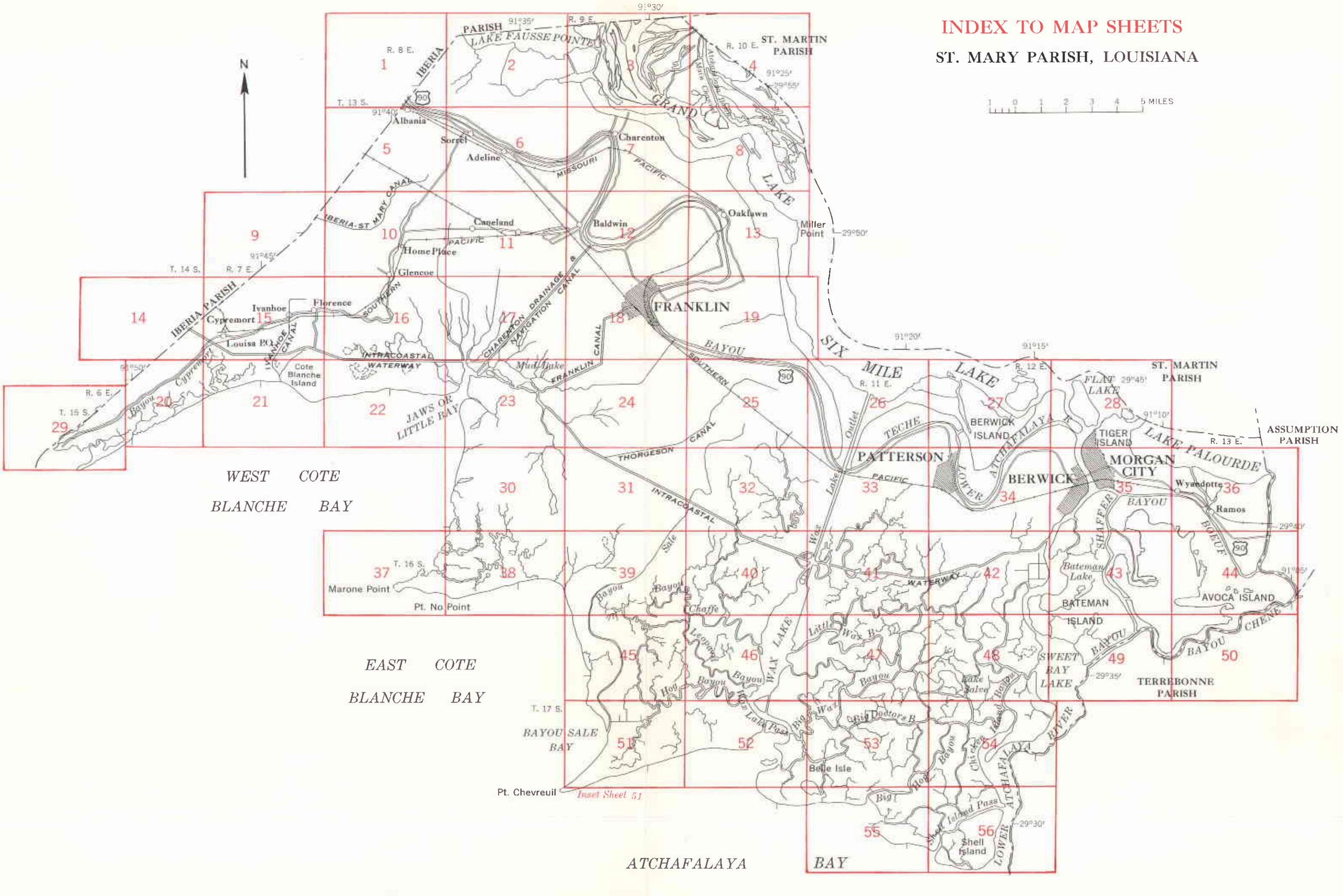
29°40'

29°35'

29°30'

INDEX TO MAP SHEETS

ST. MARY PARISH, LOUISIANA



CONVENTIONAL SIGNS

WORKS AND STRUCTURES

Roads
- Good motor
- Poor motor
- Trail
- Marker, U. S. (33)

Railroads
- Single track
- Multiple track

Navigation Light

Bridges and crossings
- Road
- Trail, foot
- Railroad
- Ferry
- Ford
- Grade
- R. R. over
- R. R. under
- Tunnel

Buildings
- School
- Church
- Station

Mine and Quarry
- Shaft
- Dump
- Prospect

Pits, gravel or other

Power line

Pipeline

Cemetery

Dam

Levee

Tank

Oil well

Sawmill

Canal lock (point upstream)

BOUNDARIES

- National or state
- County
- Township, civil
- U. S.
- Section
- City (corporate)
- Reservation
- Land grant

DRAINAGE

Streams
- Perennial
- Intermittent, unclass.
- Crossable with tillage implements
- Not crossable with tillage implements

Canals and ditches (CANAL, DITCH)

Lakes and ponds
- Perennial
- Intermittent

Wells (flowing)

Springs

Marsh

Wet spot

RELIEF

Escarpments
- Bedrock
- Other

Prominent peaks

Depressions

	Large	Small
Crossable with tillage implements		
Not crossable with tillage implements		
Contains water most of the time		

SOIL SURVEY DATA

- Soil type outline and symbol (Dx)
- Gravel
- Stones
- Rock outcrops
- Chert fragments
- Clay spot
- Sand spot
- Kitchen midden
- Made land

Erosion
- Uneroded spot (U)
- Sheet, moderate (S)
- Sheet, severe (SS)
- Gully, moderate (G)
- Gully, severe (GG)
- Sheet and gully, moderate (SG)
- Wind, moderate
- Wind, severe
- Blowout
- Wind hummock
- Overblown soil

Gullies
- Crossable with tillage implements
- Not crossable with tillage implements

Areas of alkali and salts (A, M, S)
- Strong
- Moderate
- Slight

- Free of toxic effect (F)
- Sample location (26)
- Saline spot

SOILS LEGEND

SYMBOL	NAME
Aa	Alligator clay
Ab	Alligator clay, overflow phase
Ac and Sb	Swamp, clays and mucky clays
Ad	Drained marsh, clays
Ae	Fresh water marsh, clays and mucky clays
Af	Brackish marsh, clays and mucky clays
Ba	Baldwin silt loam
Bb	Baldwin silt loam, compacted phase
Bc	Baldwin silt loam, dark-colored surface phase
Bd	Baldwin silt loam, low phase
Be	Baldwin silt loam, salty variant
Bf	Baldwin silty clay
Bg	Baldwin silty clay, compacted phase
Bh	Baldwin silty clay loam
Bk	Baldwin silty clay loam, compacted phase
Bl	Baldwin silty clay loam, low phase
Bm	Baldwin very fine sandy loam
Bn	Brackish marsh, muck
Bo	Brackish marsh, peat
Bp	Buxin-Portland-Perry soils, gently sloping phases
Br	Buxin-Portland-Perry soils, level overflow phases
Bs	Buxin-Portland-Perry soils, nearly level phases
Ca	Cypremort silt loam
Cb	Cypremort silty clay loam, eroded phase
Cc	Cypremort very fine sandy loam
Ia	Iberia clay
Ib	Iberia clay, compacted phase
Ic	Iberia clay, compacted, thin solum phase
Id	Iberia clay, thin solum phase
Ie	Iberia silt loam
If	Iberia silty clay loam
Ig	Iberia silty clay loam, thin solum phase
Ja	Jeanerette silt loam
Jb	Jeanerette silt loam, thin solum phase
Jc	Jeanerette silty clay loam, thin solum phase
Jd	Jeanerette-Iberia very fine sandy loams
La	Local alluvium, poorly drained
Ma	Made land in marsh
Mb	Made land in swamp
Mc	Made land (Portland and Perry soil materials)
Md	Swamp, muck
Me	Swamp, peat
Mf	Mixed clay alluvium (overflow phase)
Pa	Patoutville silt loam
Pb	Patoutville very fine sandy loam, eroded gently sloping phase
Pc	Patoutville very fine sandy loam, level phase
Ra	Richland and Lintonia soils, severely eroded undulating to hilly phases
Sa	Sharkey-Alligator clays
Sb and Ac	Swamp, clays and mucky clays

NOTE:
UNLESS OTHERWISE STATED, SLOPES ARE LEVEL OR NEARLY LEVEL

Soils surveyed 1948-52, by S. A. Lytle, Louisiana Agricultural Experiment Station and U. S. Department of Agriculture, B. F. Grafton, Louisiana Agricultural Experiment Station, Alexander Ritchie, U. S. Department of Agriculture.
Correlation by Irving L. Martin, U. S. Department of Agriculture.

Soil map constructed 1956 by Cartographic Division, Soil Conservation Service, USDA, from 1953 aerial photographs. Controlled mosaic based on polyconic projection, 1927 North American datum.

ST MARY PARISH, LOUISIANA

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(2)

N

0 ½ 1 Mile

0 5000 Feet

IBERIA PARISH

IBERIA PARISH

L A K E F A U S S E P O I N T E

W A R D 1

Bayou Jean Lewis

COTTON CANAL

Grand Avoille Cove

Ac Ab Aa Ba Bd Bf Bh Bk Bl Bm Ca Cc Id Ie If Ia

(Sheet 1)

(Sheet 3)

(Sheet 6)

ST MARY PARISH, LOUISIANA

3

IBERIA PARISH

(Sheet 2)

(Sheet 4)

(Sheet 7)

LAKE FAUSSE POINTE

BIG PASS

Grand Avoille Cove

WARD 1 GRAND LAKE

Ac Br Bd

N

Scale

5000 Feet

1 Mile

½

0

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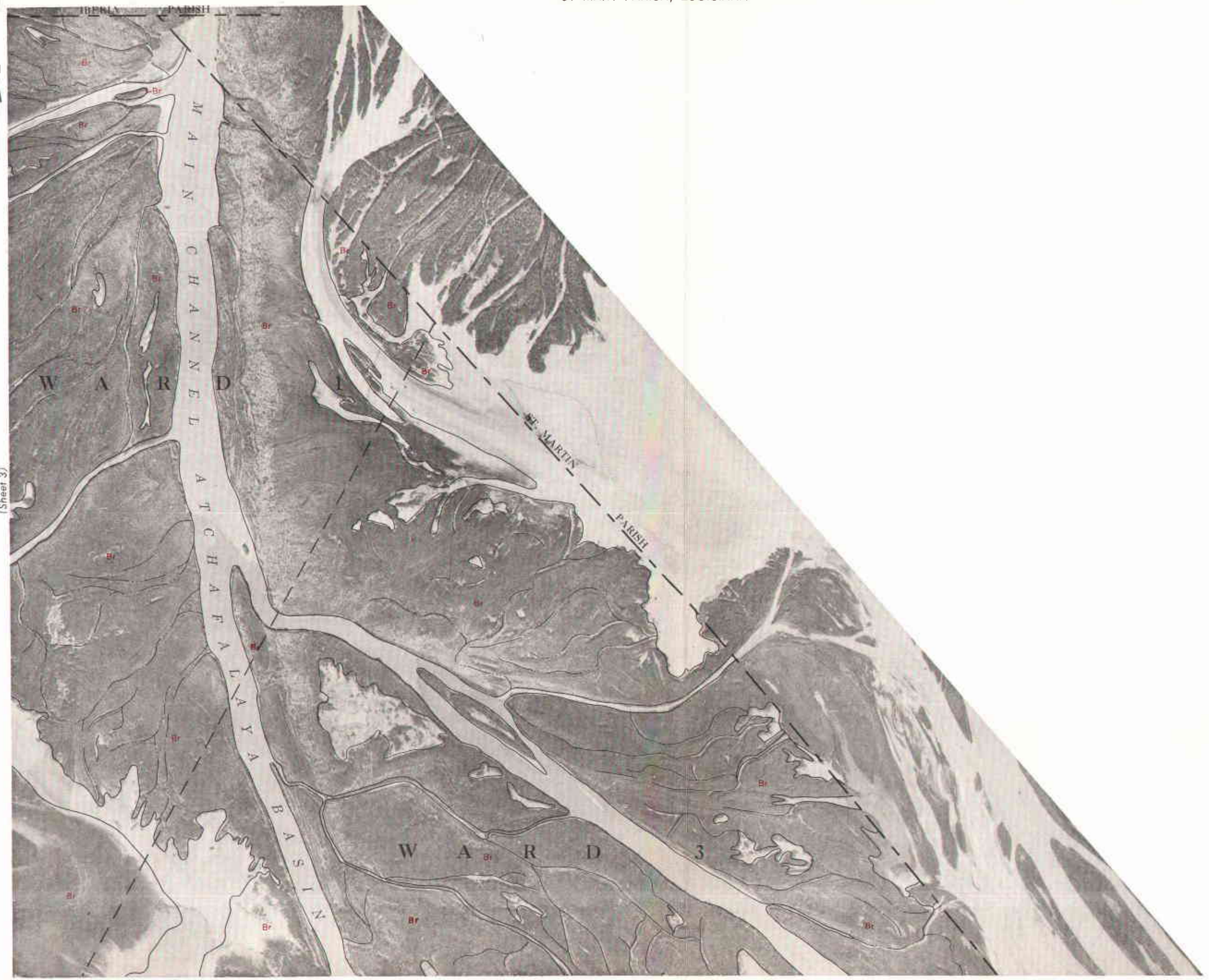
IBERIA PARISH
N
MAIN CHANNEL
WARD 1
ST. MARTIN PARISH
ATCHAFALAYA BASIN
WARD 3
Br
1 mile
0
5000 feet
(Sheet 3)
(Sheet 8)

ST MARY PARISH, LOUISIANA

(Sheet 1)

5

N

5000 Feet

0

(Sheet 6)

1 Mile

½

0

(Sheet 10)

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(Sheet 2)

ST MARY PARISH, LOUISIANA

N

0 ½ 1 Mile

(Sheet 5)

(Sheet 7)

MISSOURI PACIFIC

GULF PUBLIC SERVICE

SOUTHERN PACIFIC

Sorrel

Jeanerette Oil Field

Matilda

Adeline

Parks Plantation

TECHE BAYOU

WARD 1

0 5,000 Feet

(Sheet 11)

(Sheet 3)

(Sheet 6)

(Sheet 8)

(Sheet 12)

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(Sheet 4)

ST MARY PARISH, LOUISIANA

N

MAIN CHANNEL ATCHAFALAYA BASIN

G R A N D

L A K E

W A R D 3

Myette Point

ST MARTIN PARISH

0 ½ 1 Mile

(Sheet 7)

0 5000 Feet

(Sheet 13)

ST MARY PARISH, LOUISIANA

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ST MARY PARISH, LOUISIANA

(Sheet 5)

(Sheet 9)

(Sheet 11)

(Sheet 16)

N

0 ½ 1 Mile

0 5,000 Feet

IBERIA PARISH

IBERIA

ST. MARY

W A R D 7

W A R D 2

Four Corners School

Four Corners

Home Place

Glencoe School

St. Peter Church

SOUTHERN PACIFIC

SOUTHERN PACIFIC

Bayou Cypremort

CANAL

(Sheet 6)

(Sheet 10)

(Sheet 12)

(Sheet 17)

WARD 1

WARD 2

WARD 7

WARD 10

Caneland

Baldwin

SOUTHERN PACIFIC

BAYOU

N

5,000 Feet

0

1/2

Mile

0

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(Sheet 7)

ST MARY PARISH, LOUISIANA

N

WARD 1

WARD 3

WARD 2

WARD 4

Baldwin

Oxford

Columbia School

Katy

BAYOU TECHE

SOUTHERN PACIFIC

MISSOURI PACIFIC

CHARENTON CANAL

PUBLIC SERVICE

BAYOU

MISSOURI PACIFIC

Scale 1:20 000

0 1/4 1/2 1 Mile

0 5 000 Feet

(Sheet 11)

(Sheet 13)

(Sheet 18)

This is one of a set of maps prepared by the Soil Conservation Service, U. S. Department of Agriculture, for a soil survey report on this area. For information regarding the complete soil survey report, write the Soil Conservation Service, U. S. Department of Agriculture, Washington 25, D. C. This map compiled from aerial photographs flown in 1953.

(Sheet 12)

(Sheet 19)

MISSOURI

PACIFIC

South Coast Corp. Sugar Mill

Oaklawn

Belleview

Irish Bend

RAILROAD

TECHE

G R A N D L A K E

W A R D 3

Miller Point

Shutters Point

(Inset)

N

5000 Feet

0

1 Mile

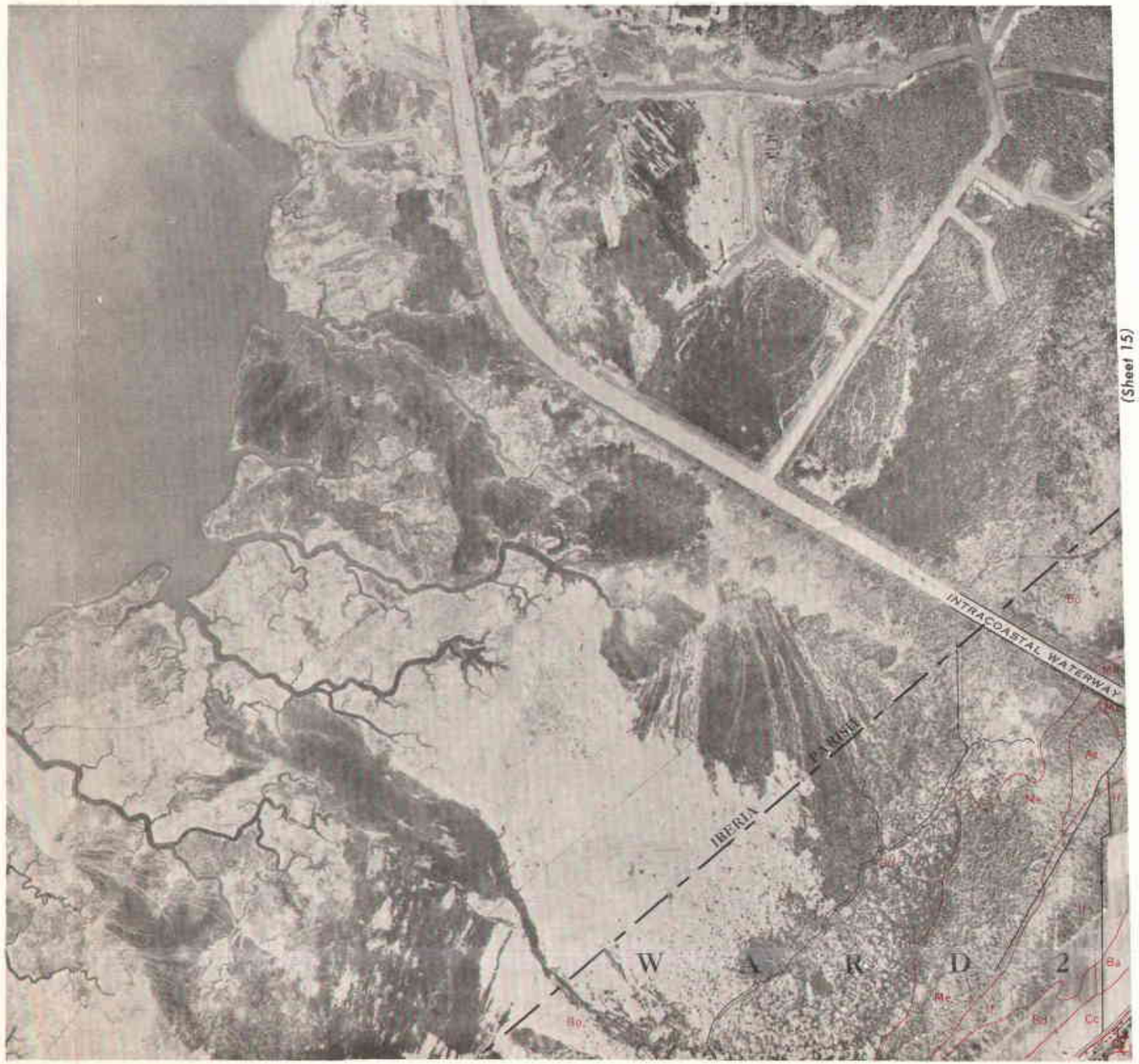
½

0

N

0
½
1 Mile

0
5,000 Feet



(Sheet 15)

(Sheet 20)

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(Sheet 14)

(Sheet 16)

(Sheet 21)

N

5,000 Feet

0

1 Mile

½

0

PARISH

IBERIA

W A R D 2

IVANHOE CANAL

SOUTHERN PACIFIC

Florence

Cypremort

Cypremort Sugar Mill

St Helens Church

Louisa P.O.

Alice B.

Bayou

Ivanhoe

Carbon Black Plant

INTRACOASTAL WATERWAY

WANRGE CANAL

WILLIAMS CANAL

Cote Blanche Island

(Sheet 10)

ST MARY PARISH, LOUISIANA

N

0 1 Mile

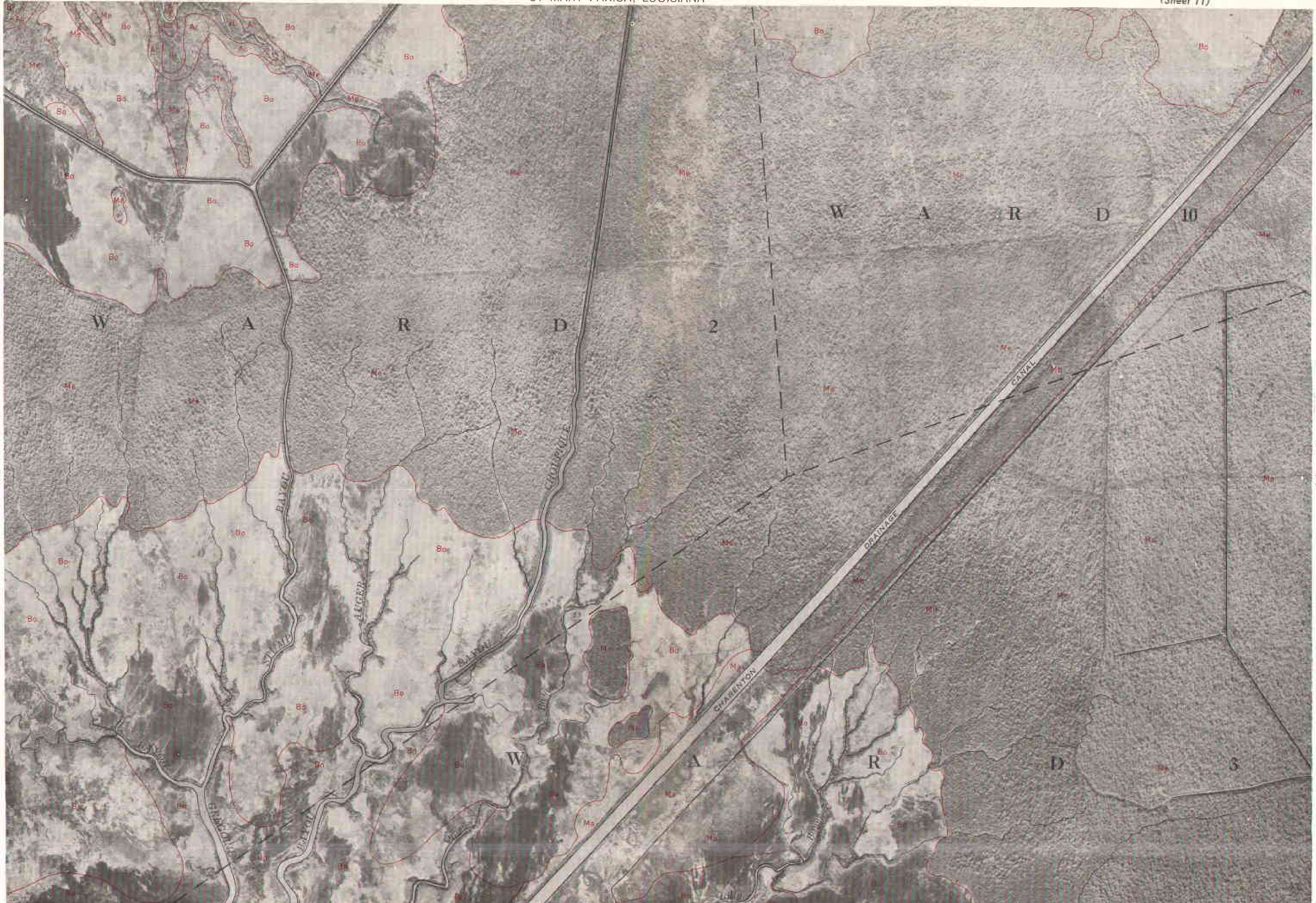
(Sheet 15)

(Sheet 17)

0 5000 Feet

(Sheet 22)

(Sheet 16)



(Sheet 18)

N

5000 Feet

0

1 Mile

1/2

0

(Sheet 23)

This is one of a set of maps prepared by the Soil Conservation Service, U. S. Department of Agriculture, for a soil survey report of this area. For information regarding the complete soil survey report, write the Soil Conservation Service, U. S. Department of Agriculture, Washington 25, D. C. This map compiled from aerial photographs flown in 1952.

(Sheet 12)

ST MARY PARISH, LOUISIANA

N

W A R D 10

FRANKLIN

Sterling Sugar Refinery

SOUTHERN PACIFIC

BAYOU TECHE

W A R D 3

BAYOU TECHE

CANAL

HANSON CANAL

Alice Sugar Mill

0 ½ 1 Mile

0 5000 Feet

(Sheet 17)

(Sheet 19)

(Sheet 24)

This is one of a set of mass orspaec by the Soil Conservation Service, U. S. Department of Agriculture, for a soil survey report of this area. For information regarding the complete soil survey report, write the Soil Conservation Service, U. S. Department of Agriculture, Washington 25, D. C. This map compiled from aerial photographs flown in 1953.

(Sheet 18)

BAYOU TECHE

GRAND LAKE

FRANKLIN WATER PIPELINE

FRANKLIN POWERLINE

CITY OF FRANKLIN PUMPING STATION

CANAL

YELLOW BAYOU

YELLOW BAYOU

BAYOU TECHE

BAYOU TECHE

Garden City

W A R D 3

W A R D 4

N

5000 Feet

0

½

1 Mile

0

(Sheet 25)

(Sheet 14)

ST MARY PARISH, LOUISIANA

N

0

½

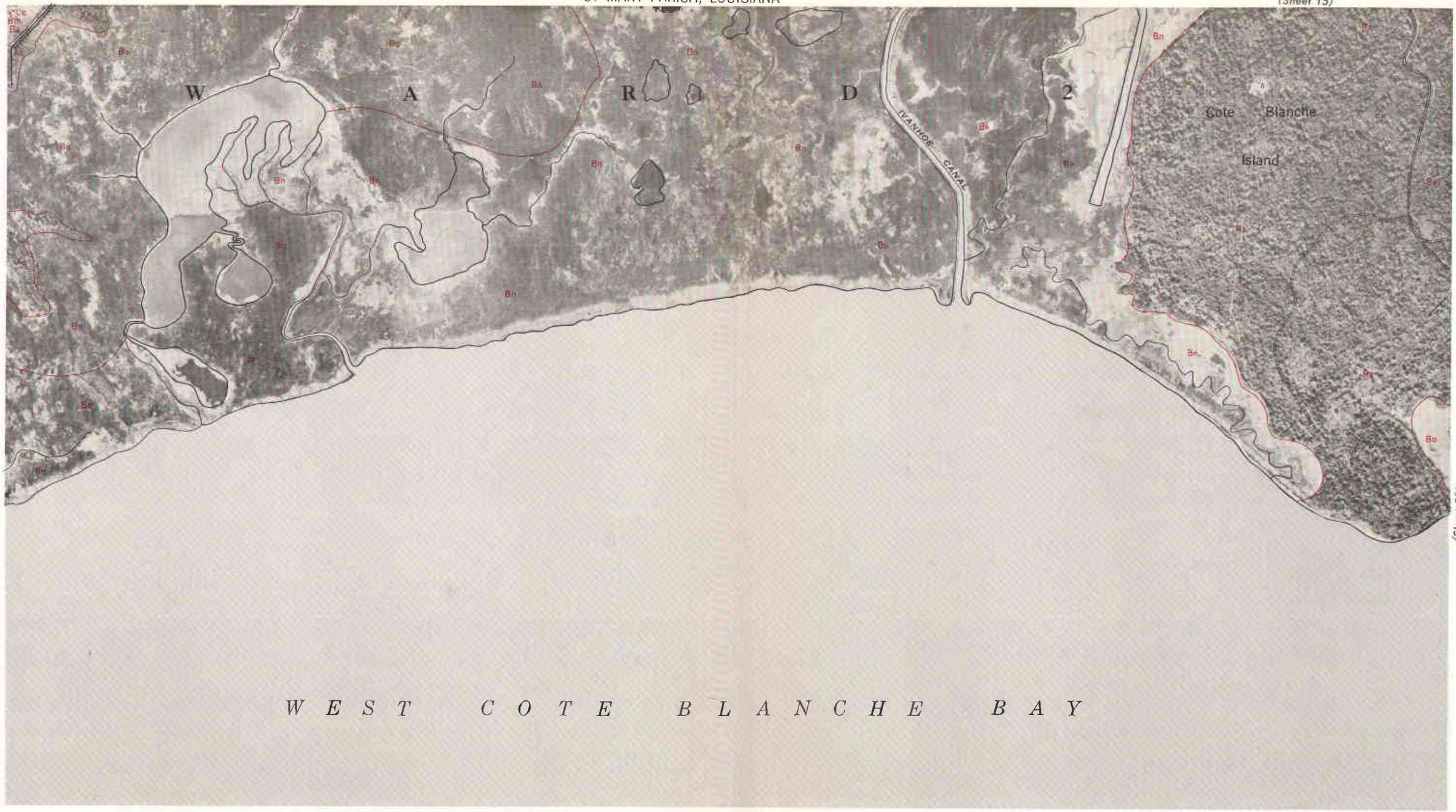
1 Mile

0

5000 Feet

(Sheet 29)

(Sheet 21)



(Sheet 20)

(Sheet 22)

W E S T C O T E B L A N C H E B A Y

This is one of a set of maps prepared by the Soil Conservation Service, U. S. Department of Agriculture, for a soil survey report of this area. For information regarding the complete soil survey report, write the Soil Conservation Service, U. S. Department of Agriculture, Washington 25, D. C. This map compiled from aerial photographs flown in 1953

ST MARY PARISH, LOUISIANA

(Sheet 16)

INTRACOASTAL WATERWAY

INTRACOASTAL WATERWAY

HACKBERRY LAKE

W A R D 2

W A R D 3

Cote Blanche Island

N

0 1/2 1 Mile

0 5000 Feet

(Sheet 21)

(Sheet 23)

W E S T C O T E B L A N C H E B A Y

WARD 2

INTRACOASTAL WATERWAY

JAWS OR LITTLE BAY

HACKBERRY LAKE

THE JAWS

BAYOU

Lower Island

BARTHOLOMEW

M U D L A K E

Upper Island

FRANKLIN CANAL

BAYOU

TORTAGE

F. B. WILLIAMS STORAGE CANAL

W E S T C O T E B L A N C H E B A Y

W A R D 3

MASCOT

BAYOU BARTHOLOMEW

BLACK CROOK BAYOU

N

5000 Feet

0

1 Mile

½

0

(Sheet 22)

(Sheet 24)

(Sheet 30)

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ST MARY PARISH, LOUISIANA

(Sheet 19)

Service, U. S. Department of Agriculture, for a soil survey report of this area. For information regarding the complete soil survey report, write the Soil Conservation Service, U. S. Department of Agriculture, Washington 25, D. C. This map compiled from aerial photographs flown in 1963.

(Sheet 24)

(Sheet 26)

(Sheet 32)

N

5,000 Feet

1 Mile

½

0

SIX MILE LAKE

WARD 4

WARD 5

BAYOU TECHE

WAX LAKE OUTLET

GULF INTRACOASTAL WATERWAY

Shadyside Plantation

PUBLIC SERVICE

Ayrlop

N

0

5000 Feet

(Sheet 25)

(Sheet 27)

(Sheet 33)

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S I X M I L E L A K E

ST. MARTIN PARISH

N

5000 Feet

0

1 Mile

½

0

Little Island

Middle Island

THREE PASS

Morgan Island

RIVERSIDE PASS

W A R D 5

W A R D 8

LOWER ATCHAFALAYA RIVER

BAYOU TECHE

ATCHAFALAYA RIVER

BERWICK ISLAND

CANAL

GOLF COURSE

Glenwild

(Sheet 26)

(Sheet 28)

(Sheet 34)

ST MARY PARISH, LOUISIANA

N

0 1/2 1 Mile

(Sheet 27)

SIX MILE LAKE

ST. MARTIN PARISH

FLAT LAKE

STOUTS PASS

DREWS ISLAND

BERWICK ISLAND

LOWER ATCHAFALAYA RIVER

BERWICK BAY

DREWS PASS

CROESUS PASS

Middle Island

LAKE PALOURDE

TIGER ISLAND

MORGAN CITY

0 5000 Feet

(Sheet 35)

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(Sheet 23)

ST MARY PARISH, LOUISIANA

(Sheet 31)

(Sheet 38)

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(Sheet 30)

(Sheet 32)

(Sheet 39)

THORGESON CANAL

INTRACOASTAL WATERWAY

W A R D 3

W A R D 4

N

5,000 Feet

1 Mile

(Sheet 25)

ST MARY PARISH, LOUISIANA

N

0 1 Mile

(Sheet 31)

0 5000 Feet

(Sheet 40)

(Sheet 33)

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Ricohoc

Calumet

Avalon

HARRY D WILLIAMS AIRPORT

BAYOU TECHE

WAX LAKE OUTLET

UNITED GAS PUBLIC SERVICE COMPANY

SOUTHERN PACIFIC

GULF PUBLIC SERVICE

TEXAS UNITED OIL GAS COMPANY

Bayou Patterson

Bayou Bethel

Little Bethel Cut-off

Bayou

N

5000 Feet

0

1 Mile

½

0

(Sheet 32)

(Sheet 34)

(Sheet 41)

ST MARY PARISH, LOUISIANA

(Sheet 27)

N

0 1 MILE

(Sheet 33)

BERWICK ISLAND

WARD 8

WARD 5

LOWER ATCHAFALAYA RIVER

ATCHAFALAYA RIVER

Patterson

Idlewild

Clarks

GULF PUBLIC SERVICE

UNITED GAS PIPE LINE COMPANY

TEXAS GULF SULPHUR COMPANY

SOUTHERN PACIFIC COMPANY

TEXAS UNITED OIL COMPANY

0 5,000 Feet

(Sheet 35)

(Sheet 42)

This is one of a set of maps prepared by the Soil Conservation Service, U. S. Department of Agriculture, for a soil survey report of this area. For information regarding the complete soil survey report, write the Soil Conservation Service, U. S. Department of Agriculture, Washington 25, D. C. This map compiled from aerial photographs flown in 1953.

LAKE PALOURDE

MORGAN CITY

TIGER ISLAND

BERWICK BAY

Berwick

Morgan City Cemetery

SOUTHERN PACIFIC

GULF PUBLIC SERVICE

FERRY

BAYOU BOEUF

Pharr

WAX BAYOU

ATCHAFALAYA RIVER

LOWER ATCHAFALAYA RIVER

BATEMAN ISLAND

BEERS ISLAND

SHAFFER BAYOU

AVOCA ISLAND

WARD 6

(Sheet 34)

(Sheet 36)

(Sheet 43)

N

5000 Feet

0

1 Mile

½

0

ST MARY PARISH, LOUISIANA

N

L A K E P A L O U R D E

ST. MARTIN PARISH

D E L T A I S L A N D

W A R D 9

Morgan City Beach

St. Andrews Church and Cemetery

Wyandotte

Greenwood

Oakland

Ramos

Amelia

BAYOU BOEUF

BAYOU TECHE

ASSUMPTION PARISH

UNITED TEXAS OIL GAS COMPANY

PACIFIC

A V O C A I S L A N D

W A R D

0 ½ 1 Mile

0 5000 Feet

(Sheet 35)

(Sheet 44)

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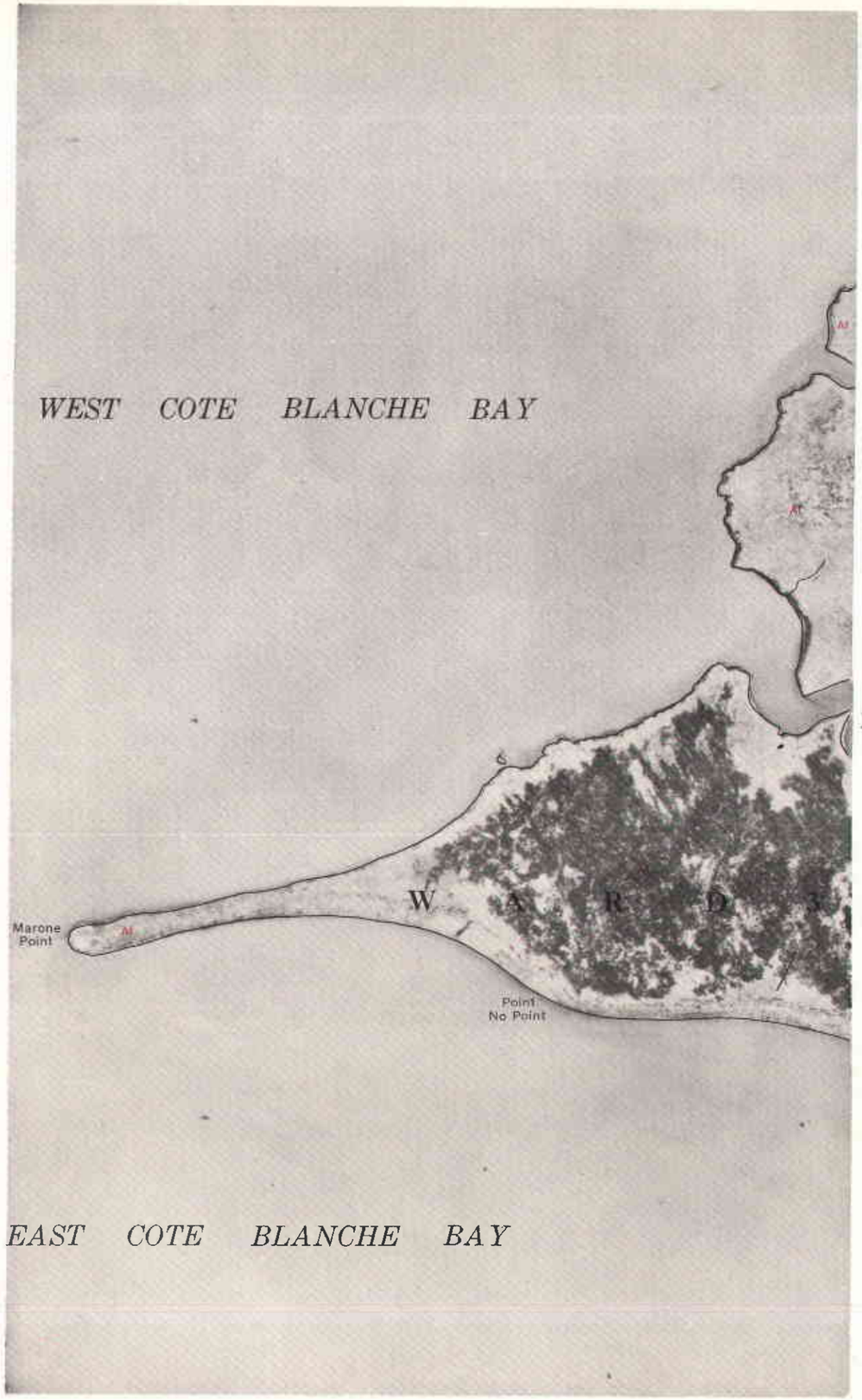

ST MARY PARISH, LOUISIANA

(Sheet 30)

(Sheet 37)

(Sheet 39)

This is one of a set of maps prepared by the Soil Conservation Service, U. S. Department of Agriculture, for a soil survey report of this area. For information regarding the complete soil survey report, write the Soil Conservation Service, U. S. Department of Agriculture, Washington 25, D. C. This map compiled from aerial photographs flown in 1953

WARD 3

WARD 4

Midway

Humble Oil Co. Camp

Bayou Sale

Bayou Teche

EAST COTE BLANCHE BAY

BAYOU CHAFFEE

GAS TRANSMISSION COMPANY

TENNESSEE GAS TRANSMISSION COMPANY

UNITED GAS TRANSMISSION COMPANY

N

5000 Feet

1 Mile

½

0

(Sheet 38)

(Sheet 40)

(Sheet 45)

(Sheet 32)

ST MARY PARISH, LOUISIANA

N

0 1/2 1 Mile

(Sheet 39)

0 1/2 1 Mile

(Sheet 41)

0 5000 Feet

(Sheet 46)

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ST MARY PARISH, LOUISIANA

(Sheet 34)

(Sheet 41)

(Sheet 43)

(Sheet 48)

N

0 1 Mile

0 5000 Feet

INTRACOASTAL WATERWAY

LITTLE WAX BAYOU

WAX BAYOU

WAX WATERWAY

INTRACOASTAL

BAYOU BOEUF

BAYOU MAPLE

BIG WAX BAYOU

CROSS BAYOU

LOWER ATCHAFALAYA RIVER

Bateman Lake Oil Field

WARD 5

WARD 6

HONEY ISLAND

LOWER ATCHAFALAYA R.

BEERS ISLAND

BAYOU

BATEMAN ISLAND

BATEMAN LAKE

AVOCA ISLAND

BAYOU SHAFFER

6

N

3000 Feet

0

1 Mile

½

0

(Sheet 42)

(Sheet 44)

(Sheet 49)

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(Sheet 36)

ST MARY PARISH, LOUISIANA

N

0 ½ 1 Mile

(Sheet 43)

0 5000 Feet

(Sheet 50)

T I G E R Amelia

TEXAS OIL COMPANY

I S L A N D

BAYOU BOEUF

ASSUMPTION BAYOU BOEUF CANAL

BAYOU CHENE

GAS COMPANY

I S L A N D

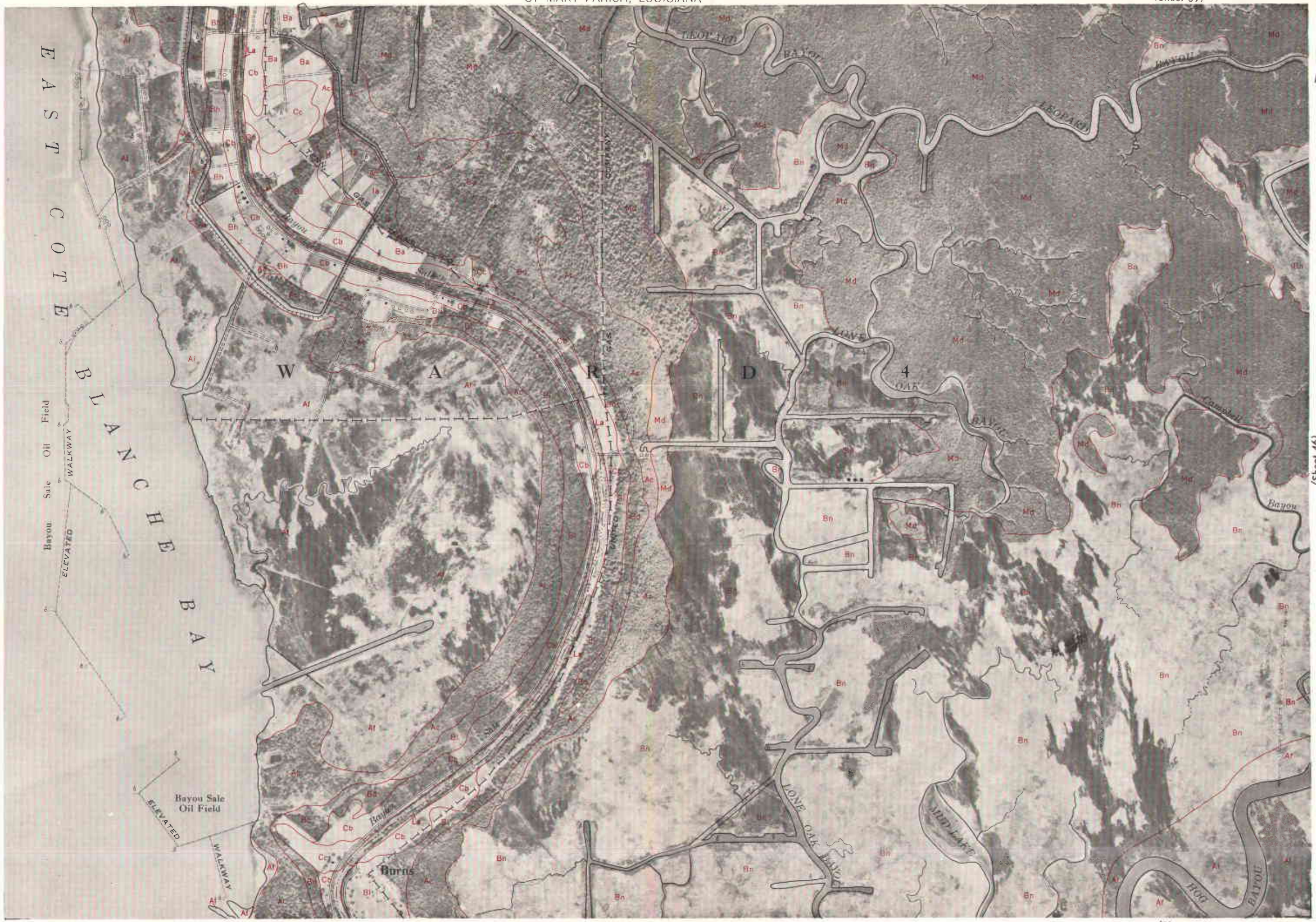
BAYOU CHENE

TERREBONNE PARISH

BAYOU

R I D G E

W A V O C A W A R D 9



(Sheet 46)

(Sheet 51)

This is one of a set of maps prepared by the Soil Conservation Service, U. S. Department of Agriculture. For information regarding the complete soil survey report, write the Soil Conservation Service, U. S. Department of Agriculture, Washington 25, D. C. This map compiled from aerial photographs flown in 1953.

(Sheet 40)

N

0 ½ 1 Mile

(Sheet 45)

0 5000 Feet

CUT-OFF B.

BAYOU CHAFFE

BAYOU BLUE

BAYOU BLUE

LEOPARD

BAYOU

WARD 4

LAKE WAX

LITTLE WAX BAYOU

TOWNHEAD BAYOU

WARD 5

Campbell Bayou

LEOPARD

HOG BAYOU

HOG BAYOU

(Sheet 47)

(Sheet 52)

This is one of a set of maps prepared by the Soil Conservation Service, U. S. Department of Agriculture, for a soil survey report of this area. For information regarding the complete soil survey report, write the Soil Conservation Service, U. S. Department of Agriculture, Washington 25, D. C. This map compiled from aerial photographs flown in 1963

(Sheet 46)

(Sheet 48)

Sheet 53)

N

5000 feet

0

1 Mile

½

0

(Sheet 42)

ST MARY PARISH, LOUISIANA

N

0

1 Mile

0

5000 Feet

(Sheet 47)

(Sheet 49)

(Sheet 54)

LOWER ATCHAFALAYA RIVER

HONEY ISLAND

SWEET BAY LAKE

LAKE SALVE

CROSS BAYOU

BIG WAX BAYOU

WARD 5

WARD 6

WARD 8

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BAYOU BOEUF

BAYOU BOEUF

BAYOU TERREBONNE

BAYOU CHENE

SHAFFER

BAYOU

SWEET BAY LAKE

TOWHEAD BAYOU

TERREBONNE PARISH

TERREBONNE PARISH

WARDS 1 2 3 4 5 6

ISLAND

MAINWAY

(Sheet 48)

(Sheet 50)

N

5000 Feet

0

1 Mile

½

0

(Sheet 44)

ST MARY PARISH, LOUISIANA

N

W A R D 9

W A R D 6

CHENE

TERREBONNE PARISH

BAYOU

TERREBONNE

COAST

Bn

Ma

0

1 Mile

(Sheet 49)

0

5000 Feet

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B L A N C H E B A Y

Salt Point

Bayou Sale Bay

W A R D 4

LONE OAK BAYOU

HOG BAYOU

HORSESHOE

(Sheet 51)

EAST COTE BLANCHE BAY

WARD 4

BAY

ATCHAFALAYA

Point Chevreuil

E A S T C O T E

A T C H A F A L A Y A B A Y

(Inset above)

N

5000 Feet

0

1 Mile

½

0

(Sheet 52)

(Sheet 46)

N

0

1 Mile

(Sheet 51)

HOG BAYOU

WAX LAKE PASS

W A R D 4

W A R D 5

COAL BOAT PASS

BAYOU

ATCHAFALAYA BAY

NEW PASS

GOAT

WAY

ISLAND

BIG

Grass Island

WAX LAKE PASS

BELLE

ISLAND

Belle Isle Point

Belle Isle Lake

(Sheet 53)

(Sheet 52)

Belle Isle Lake

WARD 4

W A R D 5

ATCHAFALAYA BAY

(Sheet 55)

0

5000 feet

(Inset to left)

(Sheet 47)

(Sheet 52)

(Sheet 54)

(Sheet 55)

This is one of a set of maps prepared by the Soil Conservation Service, U. S. Department of Agriculture, for a soil survey report of this area. For information regarding the complete soil survey report, write the Soil Conservation Service, U. S. Department of Agriculture, Washington 25, D. C. This map compiled from aerial photographs flown in 1953.

N

5000 Feet

0

1 Mile

½

0

(Sheet 48)

ST MARY PARISH, LOUISIANA

N

WILLOW PASS

BAYOU

BIG

Little

Bayou

Boudreaux

WAX BAYOU

BIG WAX BAYOU

CHICKEN ISLAND BAYOU

WARD 5

WARD 8

SWEET BAY L

ATCHAFALAYA RIVER

LOWER

TERREBONNE PARISH

(Sheet 53)

1 Mile

0

5000 Feet

(Sheet 56)

(Inset Sheet 52)

(Sheet 53)

BELLE ISLE LAKE

W A R D 5

BIG HOG BAYOU

Little Atoka Creek

Bayou

Bayou

Outside

HOG BAYOU

EAST BAY

ATCHAFALAYA BAY

LITTLE BAY

(Sheet 56)

N

5000 Feet

0

1 Mile

½

0

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(Sheet 53)

55

(Inset Sheet 52)

BELLE ISLE LAKE

W A R D 5

BIG HOG BAYOU

LITTLE ATCHAFALAYA CROSSING

Bayou

Outside

HOG BAYOU

ATCHAFALAYA BAY

EAST BAY

LITTLE BAY

N

5000 Feet

0

(Sheet 56)

1 Mile

½

0

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